

MIND

A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY

EDITED BY
PROF. GILBERT RYLE

WITH THE CO-OPERATION OF PROF. SIR F. C. BARTLETT AND PROF. C. D. BROAD

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OCTOBER 1960

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I.—AGENTS, CRITICS AND PHILOSOPHERS

BY MARY MOTHERSILL

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The need for emphasizing both of these distinctions has been emphasized in Mayo's *Ethics and the Moral Life* (Macmillan, 1958):

... the contingencies of the moral life seem to call for two different kinds of activity, the activity of the moral agent, who makes decisions and the activity of the moral spectator or judge who issues moral verdicts or appraisals. . . . And here again, criticism implies criteria; accordingly we have the moral philosopher, who is neither doing what ought to be done nor saying what ought to be done, but examining criteria, the principles of moral judgment, the standards which the moral critics apply in their assessment of moral actions.

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... We can express the difference between the three kinds of activity by saying that the actors are merely acting, they are not thinking what they are doing; the critics are not doing anything but are thinking about what is done; in particular they are making comments or criticisms in the light of criteria or principles. Finally the philosophers are neither doing or thinking about what is done; they are thinking about the criteria or principles of the critics, about the concepts used in their thinking. While critical thinking is once removed from practice, philosophical thinking is twice removed.

In the light of this analysis Mayo is led to introduce what he calls "the three-tiered model", the ground floor being occupied by actors and the upper story by philosophers. It is my purpose to examine the distinction embodied in the "three-tiered model" and to try to show not that they are useless but that they cannot be made without important qualifications.

I

Consider first the agent and the judge: Mayo's way of putting the distinction cannot of course be taken at face value. An "actor" who is "merely acting and not thinking about what he is doing" does not qualify as a moral agent except in the secondary sense in which we might want to indicate that he *could* act morally or that he *ought* to act morally. Whether it issues in a decision to act or in a judgment, moral reasoning is essentially critical and reflective; whatever valid distinction there may be between agent and judge, it certainly cannot be held to involve an opposition between "merely acting" and "thinking what one is doing".

There is one obvious difference between the problem of the agent and that of the judge; the former but not the latter has a certain practical task to perform. Both, we may presume, are engaged in trying to arrive at conclusions by rational means, but the agent must not only decide what he ought to do but must actually do it. He may succeed in the theoretical part of his project but fail, through *akrasia* or weakness of the will in the practical part. The judge cannot fail in this way. He may of course, be subject to censure because, having arrived at a verdict, he fails to pronounce it but this is a different matter and has to do with what might be called the morality of judging. A judge, moreover, if he happens to be a commander or an authority may be responsible for putting his judgment into effect, or for inducing others to act on it and he may fail to do so. But his failure,

although it may be accountable to weakness of the will, is not an instance of weakness of the will. To be consciously delinquent in one's duty is one thing; to be unsuccessful in getting other people to acknowledge or act on moral principle is another. In effect, this is to say nothing more interesting than that the moral agent must *do* what he thinks is right while the moral judge may be required only to *say* what he thinks is right.

Granting this truistic point, the interesting question is what differences there are in the theoretical aspects of the agent's problem and the critic's. Here we come upon another distinction of which Mayo's model does not take account. There is a difference between moral reasoning which is reflexive—that is—where I am thinking about *my* conduct and moral reasoning which is non-reflexive and where I am thinking about the conduct of someone else. But this difference does not correspond with the difference between being an agent and being a judge. The agent's job (leaving out of account the practical aspect noted above) consists in deciding what ought to be done; the judge's job consists in determining whether an act was right or wrong. The difference here is one of temporal perspective: deliberation precedes decision while a verdict is made *ex post facto*. But both decisions and verdicts (again omitting the practical factor) may be reflexive or non-reflexive. I pronounce judgment on my own as well as other people's acts and I deliberate, advise and (with the restrictions stipulated) decide what ought to be done by other people. Thus there are two logically independent distinctions: first that between reflexive and non-reflexive moral reasoning and second, that between reasoning which issues in a decision about what ought to be done and reasoning which issues in a verdict passed on what has been done.

Before investigating these it is necessary to say something about the top level of the "three-tiered model". Whatever else may be required of the moral philosopher, he is expected at least to provide an accurate account of what, in an older terminology, was called "the data of ethics". He must be able to show what is involved in a problem of conduct, or a moral conflict and to exhibit the structure of moral argument as it actually occurs. This enterprise is phenomenological and descriptive; it would be appropriate in such a context to raise Hampshire's point about completeness. A theory which focused exclusive attention on the problem of moral judgment and neglected the procedures of deliberation would indeed give a partial and distorted picture of morality. There is a parallel here with method of discovery or investigation in the sciences and method of proof. Aristotle and

Dewey are valuable as *good observers* ; they show what it is like to be making up one's mind. In this part of his task, in deploying his subject-matter, the philosopher, like the scientist, is expected to be disinterested. Any interpolation of his own moral opinions or preferences is gratuitous. Philosophers to be sure have not always observed this rule and one of the functions of historical scholarship is to discriminate general descriptive truths from expressions of individual or partisan bias.

There is thus one clear sense in which we can agree that the philosopher's job is not to moralize. But in addition to characterizing the data of ethics moral philosophy has a normative function and this complicates matters. Even the most austere " meta-ethicist " is expected to prescribe—not rules of conduct—but something of the order of rules of translation. He tells what distinctions are to be observed, what predicates may or may not be defined, how arguments are to be evaluated and so forth. To say that philosophy has, in this minimal sense, a normative function is to say only what is implicit in the notion of clarification, of solving speculative puzzles. But the language of morals, the language we use to praise, blame, commend, exhort is also prescriptive and the question is whether it is possible to draw a sharp line between prescription which is ' meta-ethical ' and detached and that which is moralistic and in the existentialist sense ' engaged '. At the extremes the differences are obvious ; a philosopher engaged in discriminating motives for purposes, from aims, from intentions, will not be suspected of trying to reform character. Moreover many traditional philosophers combine theoretical injunctions with concrete practical advice and this need not lead to confusion. Bentham is using prescriptive language when he says that the predicate " is right " must either be defined by the Principle of Utility or discarded as meaningless. The fact that in the course of the very same discussion he takes occasion to arraign the pretensions of the legal profession and to condemn the current penal code does not disturb us or lead us to believe that if we become Utilitarians we must condemn all lawyers.

It does not take any great acumen to see that being told how to use a word, although this may count as advice, is a different sort of advice from being told how to behave, whom to vote for, or how to recognize a villain when you meet one. The presence of these obvious differences must be emphasized ; I do not want to seem to be making the trivial claim that meta-ethics, since it has a normative aspect, is inherently moralistic. But from the fact that many examples are easy to classify it does not follow

that there are not border-line cases or that there is some sharp break between prescribing rules of language and prescribing rules of conduct. For example; there is an important chapter in *Ethics and Language* in which Stevenson proposes that in contexts where it is important to be philosophically conscientious we ought not to employ the expression "valid ethical argument"—an ethical argument being understood to be one which has a moral judgment for its conclusion. This proposal, which is defended in detail, is one which the author puts on a meta-ethical level. Explicitly and repeatedly he disavows any intention to endorse the moralistic (and cynical) view that when it comes to questions of right and wrong one argument is as good as another. Nevertheless a great many critics of Stevenson and not merely the simply-minded ones—objected to his proposal on moral grounds. They held that this particular piece of meta-ethical advice has significant moral consequences. The details of this dispute need not concern us; the point is simply that there is here a serious difference of opinion as to what is meta-ethics and what is moralizing. Nor is this an accidental and unimportant kind of difficulty. The philosopher, according to Mayo's formula, is concerned with the "examination of criteria", i.e. the criteria which are invoked by the moral agent and the moral judge. Now part of this task, as I have indicated, is descriptive and is completed when, let us say, the criteria in use have been adequately characterized. But the philosopher also has a critical function and when the object of criticism is the criteria of moral worth, then clearly it becomes a matter of some delicacy to discriminate what is moralizing from what is merely clarificatory. Moreover it is hard to see how a clear distinction could be drawn without begging important questions.

The problem of the 'limits' of morality, the question whether it is possible to define or explicate moral concepts without endorsing a particular set of moral principles or ideals—these are points which are subject to discussion and no clear answer is at present available. Of course one may choose simply to *stipulate* a thesis as meta-ethical: this, in effect, is what Stevenson does. But to adopt a convention is not to discover a difference. The literature of moral philosophy does not yield readily to classification under the two categories, analysis and edification. At the heart of every ethical theory there is, as I have noted, a particular conception of the problematic situation, of the factors relevant to moral choice. It may be spelled out or left implicit but it must not be forgotten. But if we attend not to our author's model or projection of the problematic situation but to his

reflective criticism, then what we find is not a sharp break between meta-ethics and moralizing but rather a prescriptive continuum ranging from the theoretical to the practical. From this point of view the 'three-tiered model' must be regarded as inept, at least as regards the distinction between the function of the philosopher and the function of the moral judge. If we cannot get along without *some* model, let us say that rather than inhabiting the attic, philosophers tend to ride on escalators.

Let us return now to the problems of the agent and the judge. I tried to show that if our interest is directed to the accurate characterization of problematic situations then this distinction is oversimplified and misleading. Trying to decide what ought to be done involves a different procedure from determining whether what has been done is right. Moreover deciding what *I* ought to do is different from deciding what someone else ought to do; pronouncing *your* behaviour to be right or wrong is different from handing down a verdict when I am not merely the judge but also the plaintiff and the defendant. Each of these cases deserves detailed consideration. Some of the relevant questions are as follows: Apart from the logical truism that only I can solve my moral problems, what differences are there between reflexive and non-reflexive deliberation? Are there morally relevant considerations which I can know but my advisers must guess at? Is the converse true? Under what conditions would it be correct to say that my advisers are in a better position than I am, or better qualified than I to say what I ought to do? Assuming that the notion of being one's own moral judge involves a metaphor, how adequate is the metaphor to the facts of moral experience? Can my reflexive moral judgments be arbitrary, capricious, unfair? Can I fail to take into account extenuating circumstances? Can I say of myself (as I can of someone else) that an act was "the right act" but done "for the wrong reason"? I think that if one were to work out careful answers for these and related questions the simple distinction of the agent from the judge would become progressively less useful.

Suppose now that we consider the same range of problems from the normative point of view. We are now interested not in exhibiting the varieties and types of ethical problem but in 'examining criteria', that is, in the logic of justification. The distinction between agent and judge which fails as a descriptive model to do justice to the diversity of actual problem situations, is in this context seriously misleading. The concepts of right and wrong are specified by reference to moral principles; an act is wrong if it contravenes a moral law and right either if it does

not contravene a moral law (in which case it is permissible) or if it is prescribed by a moral law (in which case it is obligatory). One respect in which a moral law differs from a legal convention or a rule of etiquette is that it is temporally and, so to speak, geographically unrestricted. It claims authority everywhere and all the time; hence the characteristic formulation of moral laws as tenseless imperatives. This universality is extended to the concept of justification; a morally sufficient reason is timeless. Now one of the differences between the problem of the agent and the problem of the judge is that the former does his reasoning before the fact and the latter after the fact. This involves two different kinds of procedure but it does not affect at all the question of proof. Whatever counts as a morally sufficient reason for doing an act must also count as a morally sufficient reason for judging an act to be right and conversely. This is not to say that for every justifiable act there is one and only one ideal reason or that the agent and the judge must follow the same route in order to arrive at the same destination. There may be many good reasons, both *prima facie* reasons and conclusive reasons for doing a particular act and there is no need to demand, and little reason to expect, actual agreement on this level. The point is a logical one: nothing could *qualify* as a good reason in the context of deliberation and be *disqualified* in the context of vindication. When I recognize that by my contemplated act I would break a promise and for no better reason than that it was convenient for me to do so, then I have morally sufficient grounds for deciding that the act would be wrong and that I ought not to do it. The verdict of the judge or critic who is required to decide whether my act was right or wrong may, as a matter of fact, conflict with my conscientious decision. He may not know about the promise; he may believe that I had adequate moral reasons for breaking it, or, agreeing with me that the act was wrong he may hold that some rule other than the prohibition of promise-breaking has been violated. It is not a question here of defining the critic's competence; he *need* not agree with me since either or both of us may in fact be mistaken. Nor is the morality of promise-keeping the question at issue. My claim is only this: that someone who acknowledged that a particular set of circumstances affords the agent sufficient grounds for morally right decision and who simultaneously denied that the same set of circumstances provide the judge with sufficient grounds for a just verdict would manifest radical confusion. He would show, in effect, that he had failed to grasp the concept of a morally sufficient reason.

There is thus a philosophically important sense in which it is incorrect to say that the agent and the judge are doing different jobs ; they are doing the same job, namely discriminating right from wrong in accord with moral principles. The further distinction between reflexive and non-reflexive modes of deliberation and judgment also vanishes at the point where the logic of justification is in question. A moral principle is supposed to override personal idiosyncrasies and preferences. It is intended to apply to everyone alike. The reasons which justify an act of mine cannot depend essentially on the fact that it *is* mine ; what is right for me would be right for anyone similarly situated. This is the point of the Categorical Imperative in its first version ; a moral principle is one which demands universal acceptance and to acknowledge a principle is to abdicate claims to special consideration. (One may sometimes justify an act by saying "It was right for *me*" but this is understood in one of two ways : either it is intended to emphasize the factors which make my situation unusual, as for instance my being subject to special obligations, or else it serves to indicate that the question is not to be construed as a moral one but rather a matter of personal taste or preference.) This does not alter the fact that my reflexive judgments and decisions are both logically distinct and phenomenally different from my non-reflexive ones. Nor is it the case, as Kant mistakenly believed, that recognizing the impersonal character of moral principles gives us a practical guide for problems of choice. To have genuine *moral* doubts is simply to be unsure whether one's maxim *can be willed* universal law. To ask the Kantian question is a way of *expressing* perplexity and not a method of resolving it. Thus to deny the distinction between reflexive and non-reflexive judgment, to say that what would make an act right for me would also make it right for you and conversely, has no interesting practical or moral consequences. It simply makes explicit what is meant by "moral principle" and "moral reason". Nonetheless inasmuch as it is part of the philosopher's job to 'examine criteria', one must insist on the formal identity which is acknowledged by the agent, the judge, the self-critic and the adviser alike, as long as they are concerned with specifically moral problems.

It is now possible to make some general remarks about the concepts of special functions presupposed by the three-tiered model. Philosophical problems are solved when the proper distinctions have been drawn but it is often hard to be sure whether this has really been done. It is easy to think up novel schemata, models, analogies, categories when dealing with

problems which have been disputed for a long time and were from the beginning vague and untidy. What I have been trying to show is this: when we are told that we must not "blur the distinctions between the function of the philosopher, the function of the agent and the function of the judge", this is advice, so to speak, from one philosopher to another. The *point* of these distinctions is philosophic, and therefore we must test their validity by trying to see how they would affect philosophic practice. Now in so far as the philosopher is responsible for giving a complete and accurate account of the various situations which give rise to moral problems, he must discriminate the agent from the judge or critic. But that distinction does not have peculiar or privileged status; it is one among many related distinctions each of which requires individual consideration. From the phenomenal point of view no simple model is adequate. From this point of view also it will be readily admitted that the philosopher has no business moralizing. But philosophy also has a critical function and when seen under this aspect the "three-tiered model" is inadequate for different reasons. For in the first place it is not possible to make a very clear distinction between prescriptions which are meta-ethical and those which are moralistic. (This is a point to which I shall return.) And in the second place, in so far as the philosopher concerns himself with the logic of moral concepts, of reasons and principles, he must recognize that the various functions or jobs are in at least one respect identical. Since this identity derives from purely logical considerations and has no bearing on problems either of moral psychology or of conduct, it may seem a trivial matter but it is not. One ethical question (according to some *the* ethical question) is to show how it is possible or why it is reasonable for people to conduct their lives in accord with impersonal moral principles which are the same for everyone and which have the authority to overrule desires and preferences. To insist that philosophers, agents, and judges have different functions obscures this problem but it does not dispose of it.

II

I should like now to revert to the question of the limits of meta-ethics. As suggested earlier, there is no point in warning philosophers to stay within bounds unless there is some way of their recognizing a frontier when they come to it. But while there are many examples of ethical analysis which could not possibly be mistaken for edifying tracts or moral counsel, there

are difficult border-line cases and these are especially likely to arise when the question concerns the criteria for right action or the specification of reasons for moral choice. Whether there is any general solution to this problem, any systematic way of distinguishing meta-ethical language from moral language, I do not know. But even as things stand at present, there are certain kinds of confusion that can be recognized and ought to be avoided.

One of the most familiar of these is that which occurs when a philosopher defends an abstract and highly theoretical thesis in language which would be appropriate only to concrete moral situations. Bearing in mind the fact that an abstract or meta-ethical thesis is simply one which occurs at the extreme of the prescriptive continuum, and allowing for the possibility that even the most abstract of theses may turn out to have moral implications or consequences, it is still important to recognize the differences which are evident to common sense. One thing that makes Kantian ethics more obscure than it needs to be is a failure to observe these differences. Kant's specifically moral concerns were dictated by his rather peculiar view of human nature. Ordinary people, as he sees them, know very well what they ought to do and where their duty lies, but because of their innate predisposition to evil, they often fail to live up to their principles. Thus the one crucial *moral* problem is that of *akrasia* or weakness of the will. The moralist's task is not to teach people what is right, nor to lead them to examine and criticize their convictions, but simply to get them to do what they know they *ought* to do. But the moralist is debarred by his own principles from using most of the ordinary techniques of persuasion. There is no need for argument since there is no theoretical disagreement; he cannot bribe, threaten or seduce the delinquent conscience since stratagems of this sort would defeat his purpose. People must be led to do their duty for no reason except that it is their duty. How does one get this across? The only method is exhortation, and this, by hypothesis, must be entirely rhetorical. And so we have the familiar Kantian idiom, bristling with metaphors of struggle, coercion, submission, with its evocations of sublimity, purity and austerity of the Moral Law and the "starry heavens above". It is turgid and monotonous, to be sure, but this is not due simply to lack of literary art; endless ornamentation of a tautology would tax the skill of the most ingenious stylist.

To assimilate all the virtues to that of moral courage is to oversimplify morality and to neglect its intellectual and critical aspects. That he did so is evidence of the limitations of Kant's

moral perspective and hence of his value as a moral teacher, but so far there is no evidence of confusion.

However, in addition to his conscientious concern for bolstering human frailty and strengthening the moral fibre and so forth, Kant had a complicated and more interesting philosophical argument to expound. In one of its aspects his thesis is that attempts to assimilate moral judgments to descriptions of internal states or expressions of feeling are bound to fail, that certain moral concepts, 'duty', 'dignity', 'worth', etc., are mutually dependent and when taken as a group are, as it were, logically autonomous. This is a complicated question but without prejudging it one can appreciate, I think, the general character of Kant's position and recognize that it is opposed to the Humian conception of the relation of morality to the passions. What is confusing is that Kant addresses himself to *this* problem as if it were a case of moral weakness, as if his opponents, Hutcheson and Hume, are somehow trying to excuse themselves from doing their duty. Thus in the *Grundlegung* he writes: "We cannot too much or too often warn against the lax or even base manner of thought which seeks principles among empirical motives and laws, for human reason in its weariness is glad to rest on this pillow." Or again: "Everything empirical is not only unworthy to be an ingredient of the principle of morality but is even highly prejudicial to the purity of moral practices themselves." It is the philosopher's task to "exhibit morality stripped of all admixture of sensuous things, and of every spurious adornment of self-love." In a way this is harmless because it is so transparent; it may well be that moral concepts cannot be analysed by psychological concepts but nobody, including in all probability Kant himself, seriously believes that steadfast adherence to this doctrine is evidence of *moral courage*. This particular kind of exaggeration is one in which many philosophers besides Kant have indulged. Bentham is disposed to regard all opponents of Utilitarianism as the spokesmen of sinister interests and more recently but in a similar vein are the somewhat unedifying exchanges between Russell and Dewey. It may be that those who say that we should not blur distinctions between philosophy and moralizing have this sort of thing in mind; if so their advice is reasonable. It is just because the question of the relation of ethical theory to moral practice is an obscure and difficult one that we should be careful to observe the differences that are obvious. Also, of course, the practice of treating philosophical differences as if they were moral conflicts encourages boring recriminations and name-calling.

One of the reasons commonly given for restricting philosophic activity to meta-ethical analysis is that the philosopher who transgresses these bounds, vague though they may be, is *ipso facto* assuming the mantle of the prophet, sage, or in Mayo's idiom the 'super-critic'. It is interesting to see how and to whom this criticism would apply. There are philosophers who have laid claim to prophetic gifts and special insights—Nietzsche, I suppose, is the best example. But surely, apart from the somewhat academic question, "Is he a genuine philosopher?" there can be no general rule covering cases like this. The real problem is to sort out the false prophets from the ones who claim to be moral experts and really are; or, more difficult still, to discriminate, as one must in the case of Nietzsche's work, between genuine moral insight and empty rhetoric.

Then there are philosophers who do not quite claim to be experts (although Plato doubtless thought himself well qualified to be a philosopher-king) but who believe that for ordering the moral life experts, men of vision, are required. Whether or not this is true is, again, not a matter for simple fiat; nor is the question whether ordinary people are qualified to deal with their own moral destiny one of those which is unambiguously meta-ethical.

There are finally, philosophers like Bentham and Kant who claim to provide some formula or first principle which, by specifying the necessary and sufficient conditions for morally right action, serves as a universally applicable criterion for conscientious decision and choice. Can it be said that these philosophers have set themselves up as moral judges and super-critics? In one sense clearly not: the need for an expert arises when rules and formulae are felt to be inadequate. The connoisseur, whether he is a philosopher king or one of Mill's qualified judges, makes his decisions not by the book but in the light of his private intuitions which by hypothesis are esoteric and arcane. The moral expert's primary function is not to apply but to set the standard for choice. The legal judge, it is true, is supposed to administer the law, but this is not really an exception. The supposition is that the legislative provisions and the contingent circumstances in which they are to obtain are both so complex that knowing how to administer the law is itself an unteachable art or skill, that is, a matter of *expertise*.

Now this conception, with all its ramifications in political and social theory, is altogether alien both to Bentham and to Kant. To hold that the Categorical Imperative or the Principle of Utility provides a sufficient criterion for rational choice is to deny

implicitly the need for moral experts or sages. In this respect both Kantian and Utilitarian theory are Cartesian rather than Platonic. It is true that neither principle fulfils the claims made for it; neither one can be used for resolving difficult problems of moral decision. It is not that they fail to qualify for the office of the "foundations of morality"; it is that there is no such office to be filled. The supposition that because acts may be right or wrong there must be some simple and universal formula for classifying them as such is indefensible. Cartesian morality is no less illusory than Cartesian theory of knowledge. This of course is something which would have to be shown in detail and I shall not try to do that here. But if it is true, as I would hold, that there can be in principle no universal formula for making moral decisions and if, as a matter of historical fact, Kant and Bentham believed that their respective doctrines embodied such a formula, then they were in error. What is less clear is that their presumptive error is in any interesting way explained by saying that they failed to observe the proper limits of meta-ethics. Or, supposing that it were possible to substantiate this claim by showing in some satisfactory way what those limits are, it would still seem misleading and unfair to say of either Kant or Bentham that he had assumed the role of a moral pontiff or super-critic.

In summary: in the second part of this discussion I have tried to interpret and evaluate a certain objection to traditional ethics which is often raised in contemporary discussion, but usually not clearly stated. It is said that moral philosophers in the past have ignored the distinction between moralizing and detached meta-ethical analysis, and that this has led them to assume the role of moral expert for which they are not in fact peculiarly qualified. That the first part of this objection has some point, I tried to show by suggesting examples of moral philosophers who show themselves to be insensitive to obvious differences between relatively abstract issues and concrete moral predicaments such as (in the case of Kant) weakness of the will. But the second part of the objection is puzzling; one can hardly say that *all* philosophers who lay claim to special sources of moral wisdom are charlatans. If the point is that *no one*, philosopher or not, has a right to consider himself a moral expert, then many large and much debated issues are broached and it is not quite clear (although it is possible) that the resolutely meta-ethical philosopher is entitled to have *any* stand on such questions. If the notion of a moral "first principle" is a confused idea, then Kant, Bentham and others who claim to provide such a principle are

misguided. It does not follow however that they are usurping the role of the moral expert or judge which, on the contrary, they explicitly abjure.

Clearly the relation between ethical theory and moral decisions, judgments, or principles is complex. We have no satisfactory way of distinguishing the philosopher's province from that of the moralist. There is no point in talking about three-tiered models or in resolving, as agents, critics, or philosophers, to stick to our own special job and not to interfere with other people's business.

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II.—ARISTOTLE AND THE SEA BATTLE ¹

BY COLIN STRANG

VERY briefly, what Aristotle is saying in *De Interpretatione*, chapter ix is this: if of two contradictory propositions it is necessary that one should be true and the other false, then it follows that everything happens of necessity; but in fact not everything happens of necessity; therefore it is not the case that of two contradictory propositions it is necessary that one should be true and the other false; the propositions for which this does not hold are certain particular propositions about the future.

The reader is warned that what Aristotle is saying is ambiguous (*cf.* Miss Anscombe, *loc. cit.* p. 1). He thought that in one (weak) sense the antecedent of the first sentence was true but did not entail the consequent, whereas in another (strong) sense it was false but did entail it.

For purposes of more detailed exposition I divide chapter ix into lettered and numbered sections. I first divide it into three sections as follows:

- (A) 18^a 28-34. Aristotle here poses the problem and says that of two contradictory propositions, where these are particular propositions about the future, it is not the case that it is necessary that one should be true and the other false. He means, though we have as yet no way of knowing it: if the last words are taken in their strong sense.
- (B) 18^a 34-19^a 6. The whole of this section with minor exceptions is taken up with an argument, which Aristotle rightly regards as invalid, designed to show what consequences follow from maintaining that the 'one true, one false' thesis, taken in its weak sense, does hold for all particular propositions about the future. Aristotle is here presenting the opposition case with the utmost persuasiveness and replying to possible objections to it.

For convenience I refer to his opponent as 'the determinist'. His opponent does not in fact name the kind of

¹ I am much indebted to Miss G. E. M. Anscombe's article of the same title in *MIND* lxxv (1956), 1-15; I agree with her main conclusion, but I am not sure that I have understood a good deal of what she says. I mention some points of disagreement in the course of my paper. I am even more indebted to Mr. Richard Taylor's article, 'The Problem of Future Contingencies', in *Philosophical Review* lxxvi (1957), 1-28, but I disagree with much more of it and more violently.

necessity he ascribes to everything. What kind it is would in any case depend entirely on the kind of reasons advanced for it. The reasons here are, if anything, logical; certainly no specifically causal argument is given. But since the kind of universal necessity Aristotle is most concerned to deny is more like causal necessity than any of the other familiar kinds, I have thought it best to refer to his opponent as a determinist: nothing more than this is to be read into the term.

- (C) 19^a 7-14. In this section Aristotle denies the conclusion of the determinist's argument and presents his own case.

(A)

In *De Interpretatione*, chapter vii, to which chapter ix is really only a footnote, Aristotle has stated a thesis about the relationship between three types of propositions and their contradictories. Type 1 are particular propositions, e.g. 'Socrates is white', 'Socrates is not white'. Type 2 are quantified universal propositions, e.g. 'Every man is white', 'Not every man is white'; 'No man is white', 'Some man is white'. Type 3 are unquantified universal propositions, e.g. 'Man is white', 'Man is not white'. About contradictories of types 1 and 2 he says *ἀνάγκη τὴν ἑτέραν ἀληθὴ εἶναι ἢ ψευδῆ* (17^b 27); about type 3 he says *οὐκ αἰεὶ ἡ μὲν ἀληθὴς ἡ δὲ ψευδὴς* (17^b 30), since both may be true.

At the beginning of chapter ix Aristotle without warning imposes, or so we are led to think, a new restriction on the generality of this thesis: for propositions about the past and present, type 3 again excluded, *ἀνάγκη τὴν κατὰ φασιν ἢ τὴν ἀπόφασιν ἀληθὴ ἢ ψευδῆ εἶναι*; but for propositions of type 1 about the future (he says nothing about type 2) *οὐχ ὁμοίως*.

It will be noted from the quotations so far given that the thesis in question is variously worded; the fullest version is to be found at 18^b 27-29: *πάσης κατὰ φάσεως καὶ ἀποφάσεως . . . ἀνάγκη τῶν ἀντικειμένων εἶναι τὴν μὲν ἀληθὴ τὴν δὲ ψευδῆ*, and at 19^b 1-2 the wording is almost identical. I take it that *ἀνάγκη τὴν ἑτέραν ἀληθὴ εἶναι ἢ ψευδῆ* (17^b 27) and the like¹ are simple abbreviations; there is nothing to suggest that Aristotle intended any distinction of meaning between any two of these sentences. However, as I have already suggested and will later argue,

¹ 18^a 34: *πᾶσα κατὰ φασιν ἢ ἀπόφασιν ἀληθὴς ἢ ψευδὴς*; 18^a 37: *πᾶσα κατὰ φασιν ἀληθὴς ἢ ψευδὴς*; 18^b 4: *ἀνάγκη τὴν κατὰ φασιν ἢ τὴν ἀπόφασιν ἀληθὴ εἶναι*.

Aristotle regarded the thesis as ambiguous ; he thought that in one sense it did, and in another sense did not, apply to certain propositions of type 1 about the future, but that it applied in both senses to propositions of types 1 and 2 about the present and past. Just what these two senses are is one of the crucial questions raised by chapter ix and will be considered later. What is beyond dispute is that, according to Aristotle, in *some* sense it did *not* apply to a certain class of propositions about the future : ἐπὶ δὲ τῶν καθ' ἑκάστα καὶ μελλόντων οὐχ ὁμοίως, and in *some* sense it *did* (19^a 36-8).

(B)

The determinist argument starts from the premise, which Aristotle has just questioned or appeared to question, that the 'one true, one false' thesis holds universally. It is essential to bear in mind that throughout the determinist's argument this thesis functions, in its weak sense, as an innocuous logical truth. For convenience of reference I divide this argument into numbered sections as follows :

(B1) 18^a 34-39(B2) 18^b 9-16(B3) 18^b 16-25(B4) 18^b 26-19^a 6.

Section B1 presents the main structure of the argument, the essence of which is this :

- (a) it follows from the definitions given of 'true' and 'false' that of two contradictories one is true and the other false ; and
 (b) it follows from (a) that everything happens of necessity, *i.e.* nothing happens ὅποτερ' ἔτυχε (contingently).

As to (a) : the definitions of 'true' and 'false' establish the following equivalences (18^a 39-3^b ; cf. *Met.* 1011^b 26) :

$$p \equiv (T) p \equiv (F) \text{not-}p \quad (1)$$

$$\text{not-}p \equiv (F) p \equiv (T) \text{not-}p \quad (2)$$

I take it that 18^b 3 is intended to give us not only *not-p* \equiv (F)*p* but also *p* \equiv (F)*not-p*. The conclusion then drawn is that of two contradictories one is true (*sc.* and the other false), or more fully :

$$\begin{aligned} &\text{either } p \text{ is true and not-}p \text{ is false, or} \\ &\text{not-}p \text{ is true and } p \text{ is false.} \end{aligned} \quad (3)$$

But this conclusion does not strictly follow from the definitions : it follows only if

either p or not-p (4)

(exclusive 'or') is assumed. It can be seen that without (4) (1) and (2) would not entail

p is either true or false (5)

not-p is either true or false (6)

either p is true or not-p is true (7)

either p is false or not-p is false ; (8)

the possibility that neither p nor not-p is either true or false and the possibility that both p and not-p are both true and false would not then be excluded.

There is of course no difficulty about assuming (4) ; but since the objection in B3 consists, as we shall see, in rejecting (4) while retaining (1) and (2), it is important to point out that the assumption is here being tacitly made.

As to (b) : it is argued that 'of necessity' and 'contingently' are the only alternatives, so that if the latter is excluded the former follows ; now an event which occurs *όπότερ' έτυχε* is defined as one which *οὐδέν μᾶλλον οὕτως ἢ μή οὕτως έχει* (18^b 9) ; but if a statement asserting the occurrence of an event is true, i.e. if it is thus, then it cannot be no-more-thus-than-not-thus ; hence it occurs not *όπότερ' έτυχε* but of necessity. But since the 'one true, one false' thesis holds universally irrespective of tense it follows that all events, including future ones, happen of necessity. The expression *όπότερ' έτυχε* occurs nine times in chapter ix, sometimes substantively, e.g. as *τὸ όπότερ' έτυχε*, and sometimes functioning adverbially like *ἀπό τύχης* and *ἐξ ἀνάγκης* ; also it is sometimes used in a wide sense as the opposite of necessity, covering the whole probability scale like *τύχη*, and sometimes in a restricted sense as a special case of *τύχη*, meaning 'the equiprobable' or 'what is as likely as not'. Depending on context, then, it will mean one of the following : *the contingent, contingently, what is as likely as not, either way indifferently*.

The phraseology and structure of this argument (18^b 5-9) are far from lucid. I have re-ordered, interpreted and supplemented the text so as to elucidate the argument as I understand it ; and so understood it is essentially the same as the argument in B2. Miss Anscombe (*loc. cit.* p. 3) understands it differently. My main justification for my interpretation, as it is Miss Anscombe's for hers, is that it makes most sense. As I see it, the argument has the same force whatever the tense of the contradictories is

taken to be ; and this holds equally for the B2 version (cf. 18^b 12 : *ἔστιν ἢ ἔσται*). According to Miss Anscombe, Aristotle argues from present to future : 'you don't think the present indeterminate, so why say the future is ?' But why not ? The reason, which is not obvious, is not given here. But it is given in the determinist's second reply to the objection in B3 (18^b 20-25), where he is arguing that future indeterminacy is incompatible with present determinacy. The argument here in B1 is that *any* indeterminacy is incompatible with the 'one true, one false' thesis.

Section B2 is best construed as a reply to possible objections. It might first be objected that truth and falsity do not apply to future tense statements, in which case the conclusion would be not that all events are necessary but only that past and present ones are. The reply—and here I paraphrase 18^b 9-11—is that anyone who maintained this would commit himself to maintaining that despite its being true to say now of something 'It is white' it would not have been true to say of it at an earlier time 'It will be white'—which is absurd : once true, always true. It might further be objected that the truth of a statement does not entail the necessity of the event whose occurrence it asserts. The reply (18^b 11-15) is a much more powerful version of the argument from truth to necessity given in B1 : "If it was always true to say 'It is' or 'It will be', then it couldn't not be or not be about to be. And if a thing cannot not happen, it is impossible that it should not happen ; and if it is impossible that it should not happen, it is necessary that it should happen ; therefore if anything is going to be it is necessary that it should happen."

I shall be discussing this argument later, but the first sentence of it calls for some preliminary comment. *was always* : i.e. at all times up to and including the present, which accounts for 'It is' ; or : exclusive 'or' ; *couldn't* : suitably ambivalent ; the Greek wisely omits the verb since two verbs would be needed, 'is not able' for 'It is' and 'was not able' for 'It will be'. In fact no more than 'If it will be then it cannot not be going to be' is needed to establish the conclusion actually drawn ; the sentence as we have it would justify the apparently stronger conclusion 'If anything is going to be it is *and always was* necessary that it should happen' (cf. 19^a 1-4). But is it really any stronger ? It would be no comfort to the libertarian if it were conceded to him that although at any given time all future events are necessary there may yet have been a time when they were not. That it cannot be conceded to him anyway is therefore a very minor point which should not have been allowed to obscure the determinist's crucial argument.

Section B3 is an attempt, which I think is successful, to block one of the most frequented escape-routes out of the determinist's dilemma, and I shall deal with it at some length. The suggestion, whose sponsor I shall call the 'libertarian', is that neither p nor not- p may be true where p is about the future. I shall outline two ways in which this suggestion might be developed and see how it stands up to the determinist's two counter-arguments.

Firstly, the libertarian may be construed as rejecting (4) while still retaining (1) and (2). This could be done in either of two ways: one might maintain that

neither p nor not- p (9)

is possible, which constitutes a denial of the Principle of the 'Excluded Middle'; or one might maintain that

both p and not- p (10)

is possible, which constitutes a denial of the Law of Contradiction. If one maintains (9) it follows from (1) and (2) that

neither p nor not- p is true (11)

and

p is neither true nor false (12)

are both possibilities.

The libertarian in fact rejects (4) by maintaining (9) and (11), giving as his example of (9) 'It neither will be nor will not be' (18^b 18). We may suppose him to add to p and not- p a third possibility $p?$ (*questionably p*), and a third equivalence alongside (1) and (2):

$p? \equiv (Q) p \equiv (Q) \text{not-}p$ (13)

Thus 'either p or not- p ' (4) is rejected in favour of

either p or not- p or $p?$ (14)

and in place of (5) and (7) we get:

p is either true or false or questionable (15)

and

either p is true or not- p is true or
both are questionable (16)

Thus, according to (14), (9) is equivalent to ' $p?$ '; and according to (16), (11) is equivalent to ' p and not- p are both questionable'.

The determinist's first reply is that (11) entails

p and not- p are both false; (17)

and that (17) is inconsistent with (1) and (2), for it follows from these that if one is false the other is true. But this reply is a

plain howler. For (1) and (2) together with (11), so far from entailing (17), entail

neither p nor not- p is false ; (18)

and this is hardly surprising since the libertarian has introduced Q as the third value applying both to p and to not- p in the case where (11) and (18) hold together (as they always do), i.e. where neither p nor not- p is either true or false.

The determinist's second reply is far more damaging. Suppose the libertarian to be maintaining that neither 'S will be P tomorrow' nor 'S will not be P tomorrow' is true: it is pointed out that when tomorrow comes the libertarian will have committed himself to maintaining that neither 'S is P' nor 'S is not P' is true, a much more paradoxical position, and one which furthermore rules out his thesis that some things happen *ἀπότερ' ἔνυχε*; for if tomorrow there is neither a sea-fight nor not a sea-fight, then there will be nothing happening, and *a fortiori* nothing will happen *ἀπότερ' ἔνυχε*. Now the libertarian will not want to admit that neither of the present tense contradictories is true, so he will have to deny that he is committed to this admission through maintaining that neither of the future tense contradictories is true. He will have to deny the 'once true, always true' doctrine and say that a proposition can *become* true from not being true. But I do not think he can do this plausibly along the lines suggested in (9)-(16).

There is in any case a much more fundamental, indeed a fatal, objection to applying a three-valued logic here. What are 'true' and 'false' supposed to mean when they are no longer treated as contradictory predicates of propositions but as contraries with an intermediate? I have arbitrarily selected 'questionable' as intermediate; and the contraries this is incompatible with are 'certain that' and 'certain that not'. Other possible triads would be

proved, disproved, neither ;

determined that, determined that not, undetermined either way ;

has happened that, has happened that not, has not yet happened either way.

The trouble is that when 'true' and 'false' are made to operate as members of such triads as these, and they slip into the rôle easily enough, they cease to operate as *truth-values*. The determinist need only say: 'But there *are* truth-values, and precisely two of them, as you well know; for you use them yourself in

expounding your own three-valued logic, as when you say that it is either true or false that a given proposition has any given one of your three values, whatever they are. Now in just *that* sense of 'true' and 'false', I claim, *all* propositions are true or false, whatever other values they may have as well. My argument therefore stands untouched'.¹

However, the determinist in the course of this successful counter-attack has revealed his own weak spot: clearly our proper course is to insist that the intermediates, e.g. *ὁπότερ' ἔρuche*, 'maybe, maybe not' etc., are quite compatible with truth and falsity proper, in other words that future indeterminacy is quite compatible with a two-valued logic—which is what Aristotle does, however ambiguously.

The second way of construing the libertarian's claim 'It neither will be nor will not be' remains within a two-valued logic; while not denying the 'once true, always true' or the 'one true, one false' doctrines he nevertheless tries to evade them. Although I think the attempt is tactically mishandled, it does bring out very well what is at the back of his mind. It is best explained as follows. The determinist and libertarian have contrasting pictures of time, the D-picture and the L-picture. The determinist pictures time as something like a line of trucks, possibly endless, passing a point called the present at a steady rate from (say) north to south. Trucks north of the point are in the future, those at the point are in the present and those south of it in the past. These trucks are regarded as containers for events; all the trucks are full, and no event ever enters or leaves a container. How the future comes to be full the D-picture does not, and need not, say: universal causation, God's edict, fate—it is all one. According to this picture:

- (i) any event now future will be present and past,
- (ii) any event now present or past was future, and
- (iii) any event which will be present is future.

¹ This is the basic objection to Lukasiewicz's attempted vindication of contingency in face of Aristotle's dilemma. For an evaluation of his system see A. N. Prior, 'Three-Valued Logic and Future Contingents', *Philosophical Quarterly* (1953), pp. 317-326. As Prior points out, it does not contain 'Either p or not-p' as a logical law and so does not in any case square with Aristotle's own position; he also points out that the modalities of the system are truth-functional, but this is hardly surprising since its 'truth' values are in fact modal values from the start. Prior attributes to Aristotle, and himself seems to accept, the view that 'It will be' is neither true nor false, even though 'Either it will be or it won't be' is necessarily true; but it seems to me that Aristotle was not so ready to be deceived by the determinist's subtleties.

The libertarian has a picture of time similar to this but differing in one crucial respect: some of the trucks in the future are empty or only partly filled; these may receive additional events while still future but they must all be completely full by the time they reach the present. According to this picture there are gaps in the future, though not in the present or past; (i) holds, but (ii) and (iii) do not on account of the gappiness of the future.

The logical issues at stake in the L-picture can be presented with the aid of the following symbolism. Let '*e*' represent an event or state of affairs, and '*ē*' an event or state of affairs incompatible with *e*; and let '*Fe*' mean '*e* is future', and '*We*' '*e* will be present'. Then¹

(a) *C Fe NFē*

(b) *C Fe We*

(c) *E We NWē*

(a), which follows directly from the meaning of 'incompatible', states that there cannot be two incompatible events in the future, but it does not rule out the possibility that the future may contain neither *e* nor *ē*: i.e. *C NFē Fē* does not hold.

(b) states that any event which is future will be present.

(c) is equivalent to the conjunction of *C We NWē* and *C NWe Wē*; the *F*-version of the latter was seen not to hold. Not only will there not be two incompatible events in the present, but also if one will not be present the other will—there being no gaps in the present, and also, incidentally, no end to the universe. It is easily seen that

(d) *A We Wē* holds, whereas

(e) *A Fe Fē* does not.

In the logic of our D-picture (a) becomes *E Fe NFē*, (b) becomes *E Fe We* since *C We Fe* also holds, and (c) holds as well as (d).

The libertarian's position, then, is that the pair of propositions 'There will be a sea-fight tomorrow' and 'There will not be a sea-fight tomorrow' are (1) ambiguous and (2) not necessarily contradictory. For (1) he might mean by the first proposition either 'A sea-fight will tomorrow be present' (*We*), or 'A sea-fight is now at tomorrow (is *in store for* tomorrow)' (*Fe*). Secondly (2) the denial may be interpreted not as *NWe* or *NFe* but as *Wē* or *Fē*. If the libertarian now construes his pair of propositions as being of the form *Fe* and *Fē*, then he can say that *K NFē NFē* is possible, i.e. that there may be neither a sea-fight nor

¹ I use Lukasiewicz's symbolism. Roughly: *N* = not, *A* = or, *K* = and, *C* = implies, *E* = is equivalent to.

anything incompatible with a sea-fight in store for tomorrow. Now since the two propositions are not contradictories he does not fall to the determinist's first objection; and he can claim to have evaded the second objection on the grounds that the assertion of $KNF_eNF\bar{e}$ does not commit him to asserting tomorrow that there is neither a sea-fight nor anything incompatible with a sea-fight going on.

While this may be a perfectly tenable position as far as it goes, i.e. neither more nor less consistent than the D-picture, it must be pointed out that it still does not evade the determinist's argument. Granted that Fe and $F\bar{e}$ may both be false, the fact remains that of the pair We and $W\bar{e}$ one must be true and the other false: either a sea-fight or something incompatible with a sea-fight will tomorrow be present—and the determinist argument applies as strongly as ever. The gappiness of the future offers no escape: there neither are nor ever will be any gaps in the present. But this eternal repleteness of the present is an embarrassment only to the libertarian who, like ours, accepts not only the 'one true, one false' premise but also the argument based on it. However, victory is in sight: one brisk skirmish (see Part IV of my discussion of Section C) and he is home.

Although Aristotle is not in B3 speaking in *propria persona* it should be fairly clear that the 'neither true' theory is not his; if it were, he would scarcely allow its rejection to pass without comment. In fact he sides with the determinist throughout Section B in resisting the objections raised.

In Section B4 (i) the determinist draws a further conclusion, (ii) Aristotle begins to comment and (iii) another possible objection is resisted. (i) The final step is now taken: if everything happens of necessity there is no need to deliberate and to calculate 'If we do A, B will happen; but if not, not'. (ii) Aristotle briefly comments that both the original conclusion and the new one that follows from it are *ἀτομον*. (iii) The objection, I am supposing, is that neither conclusion strictly follows from the determinist's premise: all he is entitled to conclude is that a future event is necessary only after someone has truly said that it will happen. I may therefore quite fruitfully calculate 'If I do A, B will happen; but if not, not' provided that no one has yet truly said that it will happen or truly said that it will not. The reply is that the event is not necessitated by the prior true statement: it makes no difference whether anything was said or not.

The section ends with a powerful re-statement of the determinist's argument.

(C)

For convenience of reference I divide Section C into :

C1 : 19^a 7-22

C2 : 19^a 23-27

C3 : 19^a 27-^b4.

In this section Aristotle begins to speak on his own behalf. It is not easy to say both briefly and precisely just what he is doing here ; but roughly he (i) denies the determinist's conclusion, (ii) elaborates his defence of contingency and (iii) makes some comments on the determinist's argument. It is these comments that are the most troublesome part of Section C to interpret. For having denied the conclusion we expect him either (a) to deny the premise or (b) challenge the argument, or both ; but he does not, as I think, do (a) despite all appearances to the contrary ; and if he does (b) he has, as I think, mistaken the target. In the five parts that follow I deal with (i), (ii) and (iii) in turn, present my own solution to the dilemma, and finally make a brief return to (iii).

I

Aristotle begins C1 by saying that the determinist's conclusion is contradicted by our own experience and the plain evidence of our senses. It is evident that deliberation and action are originating causes of events ; and more generally : ' the capability of being or not being exists in things that are not always actual—in things, that is, with regard to which it is both possible that they should be and possible that they should not be.' Thus not everything happens of necessity, but (i) some things happen *ἀπὸ τέρψ' ἐρυχε*, i.e. when neither of the pair of contradictories is more true than the other, and (ii) some things happen more one way than the other, or mostly one way, not but what it is possible for them to turn out the other way.

The determinist would not be impressed by any of these ' plain facts ' : he is well aware that his conclusion is paradoxical.

II

In various parts of Section C Aristotle develops what might be called a theory of contingency, though often concurrently with attacks on the determinist ; so in treating the two themes separately I cannot avoid some repetition.

He bases his theory on two distinctions. The first one, which is given the greater prominence, is between two different kinds

of event irrespective of the time of occurrence : between, roughly, cases of an A being a B where A's are always B's, and cases of an A being a B where A's are sometimes B's and sometimes not. Instances of the former, though he does not give any here, would be an animal dying (*cf. Met. E3, 1027^b9*) or the sun rising twenty-four hours after its previous rising ; instances of the latter would be a coat being cut up (19^a 12) or a sea-fight occurring on a particular day (19^a 30). The point of the distinction is that the former are necessary in a way in which the latter are not : as we would say, causally necessary. Now it would have helped to say at this stage that, *e.g.* although my coat was cut up *yesterday* its cutting up was not necessary, and although a sea-fight occurred *yesterday* its occurrence was not necessary : necessary, that is, in the sense here in question. But unfortunately Aristotle's examples are in the future tense : ' This coat is capable of being cut up but it will not be cut up ' ; ' It is not necessary that there should be a sea-fight tomorrow. ' He thus misleadingly suggests that the kind of possibility he is talking about applies only to the future.

Now there is a kind of possibility which applies only to the future, which I will call ' temporal possibility ',¹ and an associated necessity and impossibility which apply only to the past : ' What's done is done ', ' You can't change the past ', ' Cheer up ! It hasn't happened yet. ' I take it that this is the kind of necessity Aristotle has in mind in C2 when he says : τὸ μὲν οὖν εἶναι τὸ ὄν ὅταν ᾖ . . . ἀνάγκη ; the sea-fight now in progress and yesterday's sea-fight would come under τὸ ὄν ὅταν ᾖ. Now if ' what is, when it is ' is only a part of ' what is ', there must remain ' what is, before it is ' ; and it must be this, the future, that is said not to be necessary when it is said that not all of ' what is ' is necessary : οὐ μέντοι τὸ ὄν ἅπαν ἀνάγκη εἶναι—τὸ ὄν ἅπαν covering what was, what is and what will be. It is certainly odd to talk of ' what is, before it is ' and ' what is, when it is ', but no odder than to talk of tomorrow's sea-fight and say of it, as if it existed, that it is not necessary. When Aristotle goes on to say that ' Everything is necessary when it is ' is not the same as the unqualified ' Everything is necessary ', he is making the point that the determinist cannot mean temporal necessity when he says ' Everything is necessary ' since not everything, plainly, is temporally necessary.

I have so far been at pains to detect in Section C both a distinction between past and future and a distinction between two different kinds of event ; and I have tried to show, on the basis

¹ I am indebted to Taylor, *loc. cit.* p. 11, for the term and the idea.

of these distinctions, that an event may be necessary or possible in two quite different ways, *viz.* either causally or temporally. Now one can only deliberate about what is possible in *every* way, *i.e.* about what is possible (simply): one cannot deliberate about the past (*E.N.* 1139^b 5 ff.) or about what is already causally determined or, though these are not here in question, about what is logically necessary or about what is beyond one's power; and I take it that Aristotle is saying that not everything is temporally necessary and not everything is causally necessary, and that some things are neither and are hence possible (simply). So it is easy to see why we should find him distinguishing *both* between τὰ ἀεὶ ἐνεργούντα and τὰ μὴ ἀεὶ ἐνεργούντα (see 19^a 9 and 19^a 36), and between τὰ ὄντα (19^b 3), *alias* τὸ ὄν ὅταν ᾖ, and τὰ μὴ ὄντα (19^b 3), *alias* the rest of τὸ ὄν ἅπαν.

It is true that Aristotle does not distinguish and label different senses of 'necessary', but he certainly recognizes that things may be necessary for radically different reasons, or even in radically different ways: *cf.* καὶ ἡ δύναμις τὴν τοιαύτην (19^a 17). Basically, an event or state of affairs is necessary if it is out of the question to try and make it otherwise, whether because it has already happened (temporal reasons), or because it is already determined (causal), or because the very assumption of its being otherwise leads to absurdities (logical), or for any other reason (*cf.* S. E. Toulmin, *The Uses of Argument*, p. 29).

For the sake of brevity I have on occasion used, and shall continue to use, 'necessary' to cover 'impossible' as well; also 'possible' in the sense of 'contingent' or 'capable of being or not being': thus used, the two terms are opposites. This should not be confusing.

III

Having affirmed that some things happen of necessity and that some things do not, Aristotle must now, in face of the determinist's challenge, either reject the 'one true, one false' doctrine or show that his affirmation is consistent with it. That he did not do the former I shall now demonstrate; whether or not he did the latter remains to be seen.

A number of passages give colour to the view that he *did* reject the 'one true, one false' premise: (a) at the end of Section A he says that for particular future propositions it is not the same as for the others, and he repeats this more fully at the very end of chapter ix; (b) he says quite explicitly at 19^a 39 'so clearly it is not necessary that of every pair of contradictories one should

be true and one false'; and (c) the passages τὰ μὲν ὁπότ' ἔτυχε καὶ οὐδὲν μᾶλλον ἢ ἡ κατὰφασις ἢ ἡ ἀπόφασις ἀληθής (19^a 19) and καὶ μᾶλλον μὲν ἀληθὴ τὴν ἑτέραν, οὐ μέντοι ἤδη ἀληθὴ ἢ ψευδὴ (19^a 38) seem to imply that to say that one is no more true than the other, or somewhat more true than the other, is inconsistent with saying that one is true and one false.

All these passages need explaining away. (a) and (b) are fairly easily accounted for, (c) less so. First, then, (a) and (b) can be accounted for on the hypothesis, which I put forward at the beginning of this paper, that Aristotle regarded the 'one true, one false' premise as ambiguous. That he did so becomes evident if we compare (b) with εἶναι μὲν ἢ μὴ εἶναι ἅπαν ἀνάγκη (19^a 28), ἀνάγκη μὲν ἔσεσθαι ναυμαχίαν αὐριον ἢ μὴ ἔσεσθαι (19^a 30) and τούτων γὰρ ἀνάγκη μὲν θάτερον μόνον τῆς ἀντιφάσεως ἀληθὲς εἶναι ἢ ψεῦδος (19^a 36). All these passages flatly contradict (b) on the face of it; and Aristotle can hardly have failed to notice this or have intended to contradict himself. *Ergo* he thought the premise in question applied to future contingents in one sense but not in another. What are these two senses? The contexts of the three passages last quoted make this clear. He thought that 'It is necessary that p (is true) or not-p (is true)' might mean either

(1) p (is true) or not-p (is true) is necessary, or

(2) either it is necessary that p (is true) or it is necessary that not-p (is true).

(1) is the weak interpretation, (2) the strong; (2) involves applying 'necessary' not, as in (1), to the whole disjunction but to each leg separately (διελόντα: 19^a 29).

Alternative versions of these propositions are got by adding 'is true' after p and not-p, as I have done in brackets. It is worth noting that Aristotle maintains a strict parallelism between talk about things (πράγματα) and talk about propositions (λόγοι). The general rule is stated at 19^a 33: ὁμοίως οἱ λόγοι ἀληθεῖς ὥσπερ τὰ πράγματα. As instances we have 'It is true to say that it is' corresponding to 'It is' etc. (18^a 39-^b3); 'The assertion is no more true than the denial' (19^a 19) corresponding to 'It is no more thus than not thus' (18^b 9); and the two sets of propositions here in question, the πᾶγμα version at 19^a 28-32 and the λόγος version at 19^a 34-7.

Now if one gives the words ὅπερ συμβαίνει ἐπὶ τοῖς μὴ ἀεὶ οὖσιν ἢ μὴ ἀεὶ μὴ οὖσιν· τούτων γὰρ ἀνάγκη κτλ (19^a 35-6) their due weight it is clear that Aristotle thinks that (1), but not (2), applies to τὰ μὴ ἀεὶ ὄντα ἢ μὴ ἀεὶ μὴ ὄντα, whereas both (1) and (2) apply to τὰ ἀεὶ ὄντα and τὰ ἀεὶ μὴ ὄντα, if 'necessary' is read in (2) as

'causally necessary' and in (1) as 'logically necessary'. It is less clear from the text—but may reasonably be inferred—that he also thought that (1), but not (2), applied to τὰ μὴ ὄντα or 'what is, before it is' (future), whereas both (1) and (2) applied to τὰ ὄντα or 'what is, when it is' (past and present), if 'necessary' is read in (2) as 'temporally necessary' and in (1), again, as 'logically necessary'.

Thus the purely logical principle (1) applies indifferently to the following three pairs of contradictories: 'John will die', 'John will not die'; 'I am in London', 'I am not in London'; 'Pamela will dine tonight', 'Pamela will not dine tonight.' But 'John will die' is causally necessary, and 'I am in London' is temporally necessary, so that the non-logical principle (2) also applies to the first two pairs, though not to the third pair. In fact, given a necessary proposition of any kind and its negation, then one of the two—and a definite and often specifiable one, τὸδε ἢ τὸδε—is necessary. If this is right, what Aristotle is saying in 19^a 39-^b4 is that since some events are not necessary in any way, it follows that 'It is necessary that p is true or not-p is true' does *not* hold universally as construed in sense (2). It should be borne in mind, however, that although the determinist asserts that it *does* hold universally in sense (2) he asserts this not as his premise but as his conclusion. His premise, of course, is to be taken in sense (1).

The hypothesis of ambiguity is clinched by the qualification οὐ μέντοι τὸδε ἢ τὸδε ἀλλ' ὁπότερ' ἔτυχεν (19^a 37) appended to the words τούτων γὰρ ἀνάγκη μὲν θάτερον μῶριον τῆς ἀντιφάσεως ἀληθὲς εἶναι ἢ ψεῦδος. By τὸδε ἢ τὸδε he means interpretation (2), and by ὁπότερ' ἔτυχε interpretation (1). Elsewhere in Aristotle one of the chief functions of ὁπότερ' ἔτυχε is to resolve an ambiguity in θάτερον or τὸ ἐν, 'one of the two', which may mean either 'a particular one' (ἀφωρισμένως θάτερον, τὸδε ἢ τὸδε) or 'either indifferently' (ὁπότερ' ἔτυχε). Where it means 'a particular one' the particular alternative will normally be specified, e.g. 'A true conclusion may be drawn from false premises, either when both premises are false or when one of them is, viz. the second but not either indifferently' (*An. Pr.* 53^b 26; cf. also 30^a 15). The closest parallel to our passage is *Cat.* 13^a 9 (cf. also 12^b 39): ὅταν γὰρ ἡδὴ πεφυκὸς ἢ ἔχειν ὄψιν, τότε ἢ τυφλὸν ἢ ἔχον ὄψιν ῥηθήσεται, καὶ τούτων οὐκ ἀφωρισμένως θάτερον, ἀλλ' ὁπότερον ἔτυχεν—οὐ γὰρ ἀναγκαῖον ἢ τυφλὸν ἢ ὄψιν ἔχον εἶναι (cf. οὐ μέντοι τὸδε ἢ τὸδε), ἀλλ' ὁπότερον ἔτυχεν: it is not necessary that an adult animal should be blind and it is not necessary that it should be sighted, but it must be one or the other. However,

in our passage the phrase plays a dual rôle : it is used not only to resolve an ambiguity but also, as will appear in Part V, to mean 'as likely as not' as opposed to 'more likely than not'.

I have argued that Aristotle does not reject interpretation (1) of the determinist's premise ; and I have explained away some of the appearances to the contrary. There remain the passages quoted at (c) to explain away ; and it remains to ask whether Aristotle anywhere shows where the argument has gone wrong. These tasks must await my own account of where it has gone wrong.

IV

To judge from the great play Aristotle makes of the ambiguity in the 'one true, one false' premise, it would appear that he thought the determinist had at some point craftily substituted (2) for (1). On the other hand it is pretty clear that he has done nothing of the sort, and Aristotle cannot really have supposed him to have done so. It is true that when his argument is stated in outline, intermediate steps omitted ('If it is necessary that one is true and one is false, then everything happens of necessity'), it gains in persuasiveness if one misconstrues the antecedent ; but he might well protest *non tali auxilio*. What he has done is to argue from (1) to (2) indirectly, and very persuasively at that, (2) being in fact just another version of his conclusion.

His argument fully stated runs as follows :

- (a) Either p or not-p
 - (b) (i) If p it is not possible that not-p
 - (ii) If it is not possible that not-p it is impossible that not-p
 - (iii) If it is impossible that not-p it is necessary that p
 - (iv) Therefore if p it is necessary that p
 - (c) (i) If not p . . . }
 - (ii) } as for (b) *mutatis mutandis*
 - (iii) }
 - (iv) Therefore if not-p it is necessary that not-p
 - (d) Therefore either it is necessary that p or necessary that not-p.
- Step (b) is taken from B2 (18^b 11-15). The alternative version in B1 (18^b 5-9) covers essentially the same ground as (b)-(c) : truth and falsehood exclude contingency, and the exclusion of contingency entails necessity. Aristotle would agree that the argument detailed above is valid when 'p' is read as 'It is' but not when it is read as 'It will be'.

I shall argue that (b) (i) is the tricky step ; that both (a) and (b) (i) are put forward as necessary truths, so that the conclusion

is meant to be taken as one too; that (b) (i) is not in fact a necessary truth but derives its air of necessity from the apparent inconsistency of saying both 'It will be' and 'It is possible that it won't be';¹ and that the conclusion therefore emerges as, at best, a metaphysical hypothesis for which no argument or evidence has been offered. Miss Anscombe (*loc. cit.* p. 4) says that the tricky step is (b) (ii) but she leaves us too much in the dark about her reasons.

The reason why it often is inconsistent to say both 'It will be' and 'It is possible that it won't be' is that 'It will be' and 'It won't be' are sometimes straight and sometimes, almost always, loaded utterances: loaded, that is, with some kind of implication about the present. Loaded with cognitive implications they mean 'It definitely, certainly will (not) be'; with causal ones, 'It is determined that it will (not) be'; with intentional ones, 'It is decided that it will (not) be'; with fatalistic ones, 'It is fated (not) to be'; and there may be other possible loadings. These loaded pairs are not contradictories but contraries with an intermediate; a differently worded intermediate is easily found for each pair, but 'It may or may not be' or 'It is possible that it will and possible that it won't' would serve equally well for all of them. Since each intermediate is inconsistent with its two contraries, it follows that to say both 'It will be' (loaded) and 'It may not be' is inconsistent and that (b) (i), so interpreted, holds.

That we do tend to load it in reading (b) (i) is confirmed by the fact that when transposed (b) (i) seems to read 'If it is possible that it won't be then it won't be', which is plainly false. To restore the required plausibility we have to read 'It will be' in (b) (i) as (*e.g.*) 'It definitely will be' and negate *that*: its negation is not 'It definitely won't be' but 'It's not the case that it definitely will be'; the transposed (b) (i) then becomes 'If it's possible that it won't be it's not the case that it definitely will be'; and both that and (b) (i), so read, seem to me necessarily true.

However, if (b) (i) is so read the determinist argument collapses. For 'It will be' within the disjunction (a) must then also be read as loaded; but in that case (a) ceases to be a necessary truth and becomes neither more nor less than the determinist's conclusion: it is then either, on the cognitive and intentional interpretations, an empirical generalisation which is simply false or, on the causal and fatalistic interpretations, an ungrounded metaphysical hypothesis.

¹ Cf. Rogers Albritton, 'Present Truth and Future Contingency', *Philosophical Review* lvi (1957), 44-46.

But what if 'It will be' is read as straight? The answer is that while (a) now holds as a logical truth, (b) (i) no longer does. For when transposed (b) (i) now *does* read 'If it is possible that it won't be then it won't be'. This is false; so therefore is (b) (i). If it looks more obviously false than (b) (i) the illusion may be dispelled by focusing attention on their common denial. Since (b) (i) is intended to function as a truth of logic and is therefore to be read as stating that the consequent *follows from* the antecedent, its denial will be the statement that the antecedent is quite consistent with the negation of the consequent, viz. 'It will be is quite consistent with *It may not be*' or, more generally, 'Truth and falsehood are quite consistent with contingency'. That this denial is true is easily seen. The only example of a straight 'It will be' that I can think of, outside such logical truths as 'Either it will be or it won't be', is that of the guess or wager. Now clearly the only possible wagers are 'It will be' and 'It won't be', and one of them must win: and equally clearly neither conflicts with 'It may or may not be' in *whatever* sense this is taken, i.e. whichever of the intermediates it is taken to be: *the latter neither says nor implies anything about the outcome, and the former neither say nor imply anything about necessity of any kind*. Any argument which seems to show that there is a conflict will be found to derive its wizardry from a loaded 'It will be'. Only necessity can kill possibility, and the straight 'It will be' is quite unarmed.

Similar comments apply if (b) (i) is given the form 'If it is true that it will, etc.', since there is an analogous straight/loaded ambiguity in 'true' and 'false', though here¹ the loading is more obvious. In particular, 'It was always true that it would be' has very strong fatalistic implications; the determinist throws them in for good measure on the periphery of his argument, and they are treated at length by Professor Ryle in *Dilemmas*, chapter ii, 'It was to be'. In criticising the libertarian's three-valued escape route I pointed out that his three loaded 'truth' values were not rivals, but supplements, to the determinist's two straight truth values, and that the premise (a) therefore remained intact throughout the manoeuvre. We can now say that the libertarian's error was to introduce three values into (a) instead of denouncing the determinist for introducing them covertly into (b) (i).

¹ As also in 'It is going to be'. Cf. David Pears, *Time, Truth and Inference*, 'Essays in Conceptual Analysis', chapter xi, pp. 231-232, on the common use of the present tense for talking about the future; a great deal of his article is relevant to my discussion.

Reverting now briefly to the libertarian's second expedient, which left him embarrassed by the eternal repleteness of the present: he has already shown that if 'It will be' in (a) is read as the loaded '*Fe*' ('*e* is future') the argument collapses, and he has now to show that if it is read as the straight '*We*' ('*e* will be present') (b) (i) no longer holds. How to do this I have already indicated. In his own terminology: both '*We*' and '*Wē*' are consistent with 'Neither *Fe* nor *Fē*', i.e. with 'It may or may not be'. Of course, if we adopt the determinist's thesis that '*We*' entails '*Fe*' then 'Neither *Fe* nor *Fē*' is ruled out. But whether this thesis is to be adopted or not is just the point at issue, and logic cannot decide it either way.

V

Supposing the fallacy to lie where I have said it lies, has Aristotle exposed it? I cannot see that he has. His nearest approach is at 19^a 12-3, where he says: *τοῦτὶ τὸ ἰμᾶτιον δυνατόν ἐστι διαμνηθῆναι καὶ οὐ διαμνηθῆσθαι*. Certainly this is as much as to state that in some cases both 'It will be' and 'It may not be' are both true, but it is not to argue, in face of the challenge, that saying both is consistent. For in reply the determinist might say: 'The fact that some A's are B's and some not goes no way to refuting my claim that this A will either necessarily be a B or necessarily not be a B.'

Finally, a word about the passages I quoted at (c) near the beginning of Part III. These are symptoms of Aristotle's lack of any less misleading terminology for talking about probability. Where A's are more often B's than not, he says that 'This A will be a B' is *more true* than its denial, meaning 'more likely to be true', *οὐ μέντοι ἤδη ἀληθὴ ἢ ψευδῆ* (19^a 39). These last occurrences of 'true' and 'false' must be taken as referring to the extremes of the probability scale 'more/less true', and so as meaning 'certainly true' and 'certainly false'. Thus *ὅποτερ' ἔτυχε* in 19^a 38 serves not only to resolve the ambiguity in *θᾶτερον* and so indicate that there is a possibility either way; it also serves to specify, within the scope of a bare possibility, the case where A is no more likely to be a B than not, as against the case where it is more likely than not. If this is what Aristotle is doing he could have helped us by not shifting in mid-sentence from a straight to a loaded sense of 'true' without warning. He has only himself to blame if he has been so often misunderstood.

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III.—THE PHILOSOPHICAL SIGNIFICANCE OF MODAL LOGIC

BY GUSTAV BERGMANN

MODAL logic is of no philosophical significance whatsoever. This is the thesis I propose to defend. Anyone undertaking a task of this kind ought first to explain his terms and state the limitations of his argument. The latter is necessary because, since in philosophy everything depends upon everything else, he will have to take for granted some things that may reasonably be questioned, just as he will have to ignore some others that either are relevant or may reasonably be thought so. In the case at hand, these two kinds of opening moves can profitably be intermingled.

By a modal logic I mean an example of the sort of calculi which, ever since C. I. Lewis invented one, have engaged the interest of some philosophers and some mathematicians. A nodding acquaintance with these calculi, at least in the sentential case, I shall presuppose. Thus I shall assume that you are familiar with their characteristic feature, namely, the occurrence of a primitive sign, say, conventionally, the square (' \Box '), to be interpreted as one of the modal adverbs, say, 'necessarily'. The primitives of a modal sentential calculus (briefly, MSC), for instance, are those of the standard sentential calculus (briefly, SC) and, in addition, one such sign, say, again, the square. Modal calculi are of no philosophical significance whatsoever, or, as I would rather say, they are of no use in philosophical analysis. This is a more accurate formulation of my thesis. It is compatible with another thesis, which I shall also defend, namely, that the explication of one of the several philosophical uses of the modal words is the main task of the philosophy of logic. This is the first explanation. Next for a limitation.

Some philosophers believe that *no* logical calculus is an indispensable or, even, a useful tool of philosophical analysis. For these my thesis is a foregone conclusion which they arrived at by arguments different from and of a more general nature than those I shall present. The difference is due to my initial position. I believe that while *some* calculi are of philosophical use, some others are *not*. Among the latter, I count the several MLC; among the former, SC. Calling my position initial is but another way of calling attention to a limitation. I shall not on this occasion attempt to refute those who hold that all calculi are philosophically useless. (I state their view strongly, for the sake

of the pattern.) But I think I should mention two things my initial position implies. It implies, first, that the behaviour of the connectives of the interpreted SC is, without any residue whatsoever, summarized in their truth tables. It implies, second, that certain "sentences" of SC exemplify, without any philosophically relevant residue, the patterns which cause us to call certain English sentences tautologies. The use I just made of 'behaviour' is awkward. The awkwardness merely marks my determination to avoid certain issues. Nor shall I, in view of this determination, bother with the distinctions I just acknowledged, once and for all, by surrounding 'sentence' with quotation marks when applying it to designs of a calculus.

The calculi the earlier students constructed were all sentential. More recently, modal functional calculi have been designed and, to some extent, investigated. I shall restrict myself to the sentential case. Mathematically, this is a severe limitation. For my purpose, which is philosophical and not at all mathematical, it hardly matters. It merely means that if I wanted to speak more accurately, I would again and again have to insert some rather tedious qualifying clauses. Omission of these clauses will not, I believe, produce any inaccuracy that affects my purpose.

That much for my first term, modal logic. I turn to the second, philosophical significance, beginning with three comments that are in a sense extraneous as well as rather obvious. First: To insist that our calculi are of no use to the philosophical analyst is not to deny them intrinsic mathematical interest. Their algebraic interest is in fact not quite negligible. (This goes particularly for those among them, such as S4 and S5, which are, as one says, strong enough for one of the modalities to become what mathematicians call a closure operator.) Second: Judgments like that of my thesis must not be taken too pedantically. It may well be that our calculi are of some incidental use in philosophy. To show my good faith in this respect, I shall toward the end use the calculus called S5 to illuminate a point in the history of philosophical ideas. Third: In all fields much can be learned from mistakes. In philosophy this is particularly true. That is part of its dialectical nature. Nor am I merely trotting out a pious generality in order to parade my moderation. I sincerely believe that much can be learned and that much has been learned from an examination of the untenable philosophical claims that have been made for modal logic.

The several philosophical problems are all subtly connected. On this I insisted before. Up to a point they can nevertheless be explored either by themselves or in groups. Thus it could be that

modal calculi are useful or even indispensable tools in some areas but not in others. I therefore amend my thesis once more. Modal calculi are of no use in the philosophy of logic. As it happens, I am very sceptical, to say the least, about their usefulness for the analysis of any philosophical problem. This broader thesis, though, I shall not argue, except for a hint now and one glancing comment toward the end. Consider 'Necessarily, either it is raining or it isn't' and 'Necessarily, I shall die'. Both sentences are commonsensical. Each is the root of a philosophical use of the modal word, as in the proposition "Tautologies are necessary truths" for the first sentence and in the phrase "the necessity of natural laws" for the second. Call these the first and the second philosophical uses. Modal calculi were, with at least some initial plausibility, designed for the explication of the first. Probably because the same word is involved, they were later on, rather rashly, also used for the explication of the second. Since the two uses are in fact very different, this rashness led to mistakes.

Clearly, my thesis stands and falls with my conception of the philosophy of logic. I must therefore state and, within limits, defend it. This begins the body of my argument. First, though, for a last opening move. There is a broader and a narrower use of 'logic' as well as, correspondingly, of such phrases as 'deductive inference' and 'logical truth'. The broader use has now quite a vogue. My own is the narrower one. So I must make sure that it is clear. Upon this use, then, logical truths are all those and only those in which only non-logical words occur non-vacuously. The formula is controversial. (What is a logical word?) Also, those who accept it may and in fact do disagree about its scope or denotation. (Is the axiom of choice a logical truth?) Yet this denotation has a sufficiently firm core and, most of all, is sufficiently familiar for the formula to serve the purpose of the moment, which is merely to leave no doubt as to what I am talking about. I realize, of course, that 'logical truth' is also used philosophically. In this use I take it to be synonymous with one such use of 'necessary truth' and of 'analytic'. I take advantage of this superfluity to impose upon myself a rule that will save words. Every use I shall make of 'logical truth' in this essay is purely denotational.

The logical truths are felt and said to be "necessary" in a peculiar way. I believe that somehow this makes sense. But I also insist that in saying this sort of thing one uses 'necessary' philosophically. Philosophical uses require explication. These explications are the business of analysis. *The business of the*

philosophy of logic is the explication of this use of 'necessary' (or, synonymously, of 'analytic' and quite a few other phrases) and nothing else. To grasp more firmly what that means remember that some logical truths are called tautologies. (This is the narrower use of 'tautology'. In the broader, which I favour but shall not adopt in this essay, all logical truths are called tautologies.) They are, as everyone knows, those corresponding to the so-called theorems of SC. With respect to them, the task is to discover and describe, accurately and without using any word philosophically, that feature shared by all of them which may plausibly be offered as an explication of what a philosopher intends when, speaking philosophically and therefore not literally saying anything at all, he calls them necessary truths. On this conception of the philosophy of logic my whole argument depends. Having stated it, I can finally state my thesis exactly as I shall here defend it. To explicate the "peculiar status" of tautologies one can and must use SC; but the several MSC are for this purpose of no use whatever.

The statement I just italicized seems even more restrictive than it is. To show this I shall examine an objection which introduces what will turn out to be a major theme. Here is what an objector might say. "The major business of logic is the study of deductive inference. Your emphasis is therefore misleading, to say the least. Probably it is due to your preoccupation with what other philosophers and you yourself on other occasions have called analyticity." My answer has two parts. C can be deductively inferred from P (briefly, can be inferred; synonymously, is implied by) if and only if 'If P then C' is a logical truth. This is the first part of my answer. I take it to be both noncontroversial and obvious. It shows that in one sense the proposed formula does justice to deductive inference. In another it deliberately doesn't. To show why it need not and should not is the burden of the second part of my answer. Notice that while my friend spoke of logic, I spoke of the philosophy of logic and that, unlike him, I did not use the word study. The cause of the difference, I suggest, is that while my interest is philosophical, his is mathematical (and/or scientific). Mathematicians must be clever at drawing inferences. If a mathematician turns his mind to inference, rather than to making inferences concerning numbers, or groups, or what have you, he will naturally be interested in first discovering and then "studying" its patterns in the way in which he studies other things. That is, he will try to answer such questions as: How many of these patterns are there? If their number is infinite, are there ways of "generating" all of them

from a finite selection among them? Given any alleged pattern, is there a *mechanical criterion* for deciding whether it really is one? And so on. You recognize the characteristic and legitimate interests of mathematical logic. To the philosopher they are of little concern. He tries to answer only one question. What is the "nature" of deductive inference? Or, what amounts as we just saw to the same thing, what is the proper *explication* of the "necessity" of logical truth? I might have used 'criterion' instead of 'explication'. One reason I didn't is that the explication, in order to be adequate, need not yield a mechanical criterion. In the sentential case it does. In some others, the mathematicians have shown that it cannot. They themselves, I fear, tend to overestimate the philosophical import of this mathematically very interesting fact. It might occur to one who likes to speculate about trends and influences that this tendency among mathematicians goes well with the so-called verification theory of meaning. Since I believe, though on grounds quite different from those now popular, that this theory is all a mistake, I have at least the satisfaction that my several opinions seem to hang together.

The sentences of SC corresponding to tautologies are those and only those which yield upon all possible evaluations by the truth tables the value T. *This is the only adequate explication* I know of what might plausibly be meant when, speaking philosophically, one says that tautologies are necessary truths (analytic). My statement of it is very succinct. But then, the technicalities are very familiar. So I proceed to three comments that will come in handy.

First: In the sentential case, there are two rules, call them *R*, specifically, the rules of substitution and detachment, such that by repeatedly applying them one can from any given set of premisses arrive at all possible conclusions. This is not to say, of course, that in drawing any of these conclusions one consciously applies *R*. Second: Everyone knows that SC can be written with either one or two primitive connectives alone. The others can all be defined. This is merely a technicality. We may as well assume that all connectives are primitives. The point is, rather, first and obviously, that every calculus must have primitives, and, second and perhaps less obviously, that it is wildly inaccurate and grossly misleading to speak and think of the tables of the primitive connectives as their "definitions". The tables merely standardize their actual behaviour, with that *other* inaccuracy, in respect to natural languages, which so impresses those who reject my initial position. (Notice that I use 'standardize' instead of the ambiguous and philosophically

compromised 'formalize'.) Third: It is just as wrongheaded and misleading to speak or think of the tables as "explications" of the connectives. A connective has and needs no explication. I don't even know what could be meant by explicating one. What is being explicated by means of the tables is, not the connectives, but a philosophical use of 'necessary'.

It is time to reveal my over-all strategy. In the sentential case, there *seems* to be an alternative way of studying or doing logic. For all mathematical purposes the inaccuracy of calling it an alternative is slight and, very probably, harmless. Philosophically it is fatal. For this "alternative" does not have the least tendency to lead to the required explications. I propose to show that for the several MSC this so-called alternative is the only one available. Notice that I spoke once again of studying or doing logic rather than of the explications which the analyst seeks.

The number of tautological patterns (briefly, tautologies) is infinite. This gives rise to one of the mathematical questions I mentioned. Are there ways of constructing a "system" by "generating" *all* tautologies from a *finite* number of them? The members of such a selection are called *primitive sentences*, or, very misleadingly, axioms, just as, again very misleadingly, the supposed alternative, which consists in the construction of such systems, is called the axiomatic method. I shall here call it the *pseudoaxiomatic* method. The answer to the question itself is affirmative. Technically, this is known as the completeness of SC. For what one may loosely call the whole of logic the answer is negative. This is one of Goedel's celebrated results. Mathematically, it was epochal. Philosophically, it was a mixed blessing. For it caused the mathematicians to lose interest in the notion of analyticity, quite understandably and perhaps justifiably, since their primary interest in this game is axiomatics. But it is no reason at all why philosophers, with their different interest, should in this respect imitate the mathematicians. Yet that is what happened. I return to the sentential case.

Four among the five tautologies Russell chose as primitive are among the selections that will do. A set of rules that goes with them are the rules *R* of inference. Nor is that surprising, since, on the one hand, it is clearly part of the uses to be explicated that only "necessary" truths can be "inferred (deduced)" from "necessary" ones while, on the other hand, SC being complete, *all* logical truths that are tautologies should be thus deducible. Everything fits nicely. The identity of these "two" sets of rules is nonetheless a potential source of confusion. It may,

among the mathematically inclined, strengthen the illusion that to organize all tautologies into a pseudoaxiomatic system is to forge a useful tool of philosophical analysis. There are two reasons for this. For one, we saw that mathematicians (and scientists) naturally think of "logic" primarily as the "study" of deductive inference. For another, the designing of such a system, the proofs about it, and the so-called "proofs" within it require the kind of ingenuity mathematicians prize above all. Philosophers, Locke once observed, need another kind of acumen.

It remains to be shown that what I just called an illusion really is one. It will pay, though, if I do some other things first. Next, I shall attend to two differences and two similarities between axiomatic and pseudoaxiomatic systems (briefly, AS and PAS). Then I shall suggest two additional reasons why PAS may be thought to be useful in the philosophy of logic. These, too, I shall argue, are bad reasons. Yet they are subtler. At least, they may seduce even those philosophers who are not in the wrong way impressed by the achievements of the mathematicians.

For an example of an AS, take one of the several axiomatizations of Euclidean geometry; for one of a PAS, the *Principia Mathematica* system of SC. Neither the axioms nor the theorems (i.e. nonaxioms) of an AS are logical truths. Both the primitive sentences and the so-called theorems of a PAS are. The theorems of an AS are generated from its axioms by *making* deductive inferences. In a PAS, patterns of deductive inference, or, what amounts virtually to the same thing, patterns of logical truth are generated from other such patterns. This is the *first difference*. If the axioms of an AS are true, then "necessarily" its theorems are also true (but not, necessarily true). This is of great help to scientists. From what has been said about the relation between inference and logical truth it follows that the use I just made of 'necessary' is the one to be explicated. A PAS merely shows that some logical truths are connected as are the axioms and the theorems of an AS. For two reasons this is of no help to the analyst. For one, he (and he alone) must not take this use of 'necessarily' for granted. For another, even if he could take it for granted, the "necessity" of the tie between two tautologies appearing as "premiss" and "conclusion" respectively has not the slightest tendency to establish the "necessity" of either or, for that matter, to yield an explication of what might be meant by such "necessity". This is the *second difference*.

Mathematicians, who are specialists in making inferences and in nothing else, need not be concerned with what, if anything, the primitive terms of an AS mean. The very special and complex

case, in physics, of those partially interpreted AS also called models we can safely disregard. In all other cases, the primitives of an AS have been chosen for this role because their meanings are known. In some cases, *e.g.* geometry, they are so simple that they can be neither defined nor explained. Nor does an AS ever provide either definitions or explanations for its primitives. The same holds for a PAS. This agrees well with what has been said about the connectives of SC. On the other hand, both AS and PAS do provide explanations for their defined terms, or, more precisely, for the terms their definitions are said to "analyse". Notice that I speak of (mathematical or scientific) explanations rather than of (philosophical) explications. Sometimes, though, the sole purpose of the explanation is to serve as a tool for explication. The *Principia Mathematica* definition of 'number' is probably the most famous case in point. All this amounts to a *similarity*. Scientists sometimes construct an AS merely in order to find out what depends on what. This case and some equally irrelevant qualifications aside, a scientist chooses his axioms for this role because he is very certain of their truth. Given the nature of deductive inference, which, since he is a scientist, he may take for granted, he will therefore be just as certain of all the theorems he is able to infer from them. Some of these theorems may not otherwise have occurred to him; some he may not be able to test directly. In science that is important. Similarly, a PAS may lead mathematical logicians to the discovery of logical truths they would otherwise not have thought of or which, if presented to them, they could not identify as such. Again, in mathematical logic that is important. This is a *second similarity*. But then, we must keep in mind that the discovery or identification, for its own sake, of complicated logical truths is no more the business of the logical analyst than it is that of the mathematician to add or multiply ever longer columns of numbers.

Definitions are sentences of a very special kind, telling us the meaning of one of the words occurring in them provided we know that of all others. Assume now that you are presented with several words, all of unknown meaning. Form one or several sentences, not of that very special kind, each containing all or some of those words whose meaning you ignore and, except for logical words, no others. (That it makes sense to speak of logical words is part of my initial position.) Groups of such sentences have been called *implicit definitions* of the unknown words. The notion is irremediably confused. The phrase, we shall see, is disastrously misleading. It was invented by mathematicians. They spoke, for instance, of the axioms of geometry as the

implicit definitions of its primitives. What they meant was that the axioms of a system determine (not define!) completely whether or not any given sentence is one of its theorems, irrespective of what the meanings, if any, of the primitives may be. Mathematically, the inaccuracy may be harmless. Philosophically, it is fatal. Take the case at hand. Definitions, even though arbitrary in one sense, are in another rather obvious sense "necessary truths". One who foolishly considers so-called implicit definitions as a species of definitions is therefore in danger of making two related mistakes. He may think of the primitive sentences of a PAS as implicit definitions of its primitive terms. And he may offer us "true by definition" as the desired explication of "necessarily true". If he makes these mistakes then he will, for a bad reason, also claim that a PAS may be a useful tool for philosophical analysis. This is the *first of the two bad reasons* I mentioned.

To the scientist the meaning of his primitives is very clear. Of his axioms he is very certain. As definition and deduction proceed, clarity and certainty spread, stepwise, in a Cartesian progression, to his defined terms and theorems. Concerning the certainty of the inferences or, even, their correctness, in the ordinary sense of avoiding errors, he asks, as a scientist, no special assurance. Since some logical truths are very simple and easily recognized, while some others are not, a similar spread occurs when a mathematical logician constructs a PAS or what he believes to be one. Moreover, the process of generation itself is in this case fully articulated; its rules are very simple and their application mechanical, thus providing the best possible protection against error. This helps the spread. It is further helped if there is, for the system, a mechanical criterion to decide whether any given sentence can be reached by a "proof" within it. Unproblematic as all this is, it is nonetheless at the heart of the second bad reason for misjudging the philosophical significance of PAS. The troublemaker is 'certain', which I introduced deliberately at this point. As I used it, it refers to a character of beliefs. This use is not philosophical. Several others are. In one of these it is synonymous with 'necessary', when the latter is used in the way that concerns us. In other words, I hold that one and the same thing is intended by those who, speaking philosophically, say once that logical truths are "necessary" and once that they are "certain". This philosophical use of 'certain' may become the cause of a mistake. The analysts' job in logic is to discover certain features of certain propositions. This is one thing. These features may, or in complicated cases

may not, be the cause, or among the causes, of our holding the propositions exemplifying them with certainty. This is another thing. Uncritical use of 'certain' may keep one from noticing the distinction. The danger is increased by the circumstance that, as far as the non-philosophical meaning of 'certain' is concerned, it is futile to distinguish between the ways in which I hold that two and two make four, and if I have one, that I have a headache. (I use, clumsily, 'holding' because I wish to ignore some questions that could be raised about 'knowing' and 'believing'.) Since, as we saw, a PAS spreads certainty, in the non-philosophical sense, from what is certain to what initially was not, one unaware of all these distinctions is in danger of overestimating, for a bad reason, the philosophical usefulness of such systems. This is the *second bad reason* I had in mind. Now for a digression.

There is another way, quick yet incisive as far as it goes, of spotting the bad reason I just dissected. Those deceived by it overlook a distinction. It is one thing to *establish* the certainty of logical truths. If these truths are very simple, I don't even know what it would mean to do that. If they are very complicated, that is indeed the task of the mathematical logician. Or, more accurately, it is his task to show that they are logical truths. But it is quite a different thing to *explicate* what we mean when, speaking philosophically, we say that all logical truths are necessary, irrespective of whether they are simple or complicated or of whether we can identify them as such. The matter comes to a head when we proceed from tautologies, which are very simple, to more complicated logical truths, particularly in the area known as the foundations of mathematics. The very phrase, foundations of mathematics, is a cue to what may go wrong and, I believe, has gone wrong. The specialists in this area investigate how much can by what means be generated from how little, or, as is said, from how small a basis. But they mistake what they are doing for the urgent philosophical task of providing mathematics with a "foundation" that is "certain". As I see it, there is no such task. The philosophy of mathematics is merely a very specialized branch of the philosophy of logic, concerned only with explication but not with establishing either certainty or anything else. Yet our experts confused some philosophers by setting themselves up as would-be philosophical critics, mostly on the skeptical side, of what I just called the means and the basis. The would-be philosophical doctrine of finitism is an expression of the confusion. At this point two historical conjectures come to mind. I suggest, first, that this particular

confusion is but one of the many bad effects of that wrong kind of preoccupation, not to say obsession, with certainty which for so long has been so powerful in our tradition. Remember, second, the wrong theory of meaning, only recently considered the very heart of "empiricism", whose probable influence on the philosophy of logic I deplored earlier. It may well be that this influence and that of finitism reinforced each other. For the wrong kinds of "empiricism" and "skepticism" tend to go together.

After all these preparations it should not and it will not take long to defend my thesis. A MSC is, or rather *passes for* a PAS and *nothing else*. This is the heart of the matter. I shall first explain the two italicized phrases. Then I shall present two arguments. Jointly these arguments are a sufficient defence of the thesis.

We may assume that each MSC contains among its primitives the square, to be read 'necessarily', in the sense in which logical truths are felt and said to be "necessary". Sentences containing the square contain therefore at least one word used philosophically. Such sentences, I call them philosophical, are very peculiar. Literally they make no sense. Hence they are certainly not logical truths. All this is part of my initial position. At least one axiom of a MSC must contain the square. Hence it is not a logical truth. This is why I said that a MSC *passes for* a PAS. Technically, there are two ways of singling out the tautologies among the sentences of the SC. One, call it the first, is to apply the truth table test. The other, call it the second, is membership in the PAS into which the SC can be arranged. Only the first yields the required explication. For an MSC there is only the second way. Nor has it ever been claimed that there is another. This is why I said that a MSC is a PAS and *nothing else*.

Like the connectives, the square is a primitive. Unlike the connectives, it represents a philosophical use requiring explication. As it happens, this particular explication is the principal task of the philosophy of logic. I have shown that an axiomatic system, whether pseudo or genuine, never explicates any of its primitives. This is the *first argument*. A likely reason why its force may not be recognized is the muddle about so-called implicit definitions.

I can think only of one argument a defender of the philosophical uses of modal logics might put forth which I have not yet examined. A MSC contains not only the square but also, as defined signs, the diamond (' \Diamond '), read 'possibly', and the hook (' \rightarrow '), read '(strictly) implies'. Now the defender may argue as follows. He claims first, that the philosophical task is not at all, as I wrongly believe, to explicate certain uses of these three words but,

rather, to standardize them. He claims, second, that the MSC of his choice—remember that there are several—does just that. The cogency of the second claim depends, among other things, on the soundness of the first. Those who hold that all calculi are philosophically useless will reject the second claim out of hand. I, naturally, must not and shall not take this course. Rather, I grant the second claim, though only for the sake of the argument, and attack the first. As such, a standardization has no philosophical significance whatsoever. To me this is self-evident. A standardization is significant or, rather, useful only if it can be made the tool of an explication. This is my *second argument*. A likely reason why its force may not be recognized is the occurrence in the minds of some, particularly when symbols are involved, of an unanalyzed connection between the two notions, equally unanalyzed, of certainty and standardization. A contributory cause is probably the use of the slippery 'formalization' for 'standardization'. Be that as it may, I conclude that a MSC, no matter how interesting mathematically, is philosophically at best a useless standardization.

I have established my thesis. So I could stop. But the significance of a thesis of this sort is greatly enhanced, just as the argument for it gains in conviction, if both thesis and argument are commented upon in several different ways. I shall present five such comments. The last is a bit mathematical. But it would be a pity to skip it, for it provides a kind of closure not to be achieved otherwise. So I shall compromise by putting it in small print.

1. For its defined terms, we saw, an axiomatic system provides explanations which may in turn be used in explications. Let us then consider the hook. ' $p \rightarrow q$ ' stands, by definition, for ' $\Box \sim (p \sim q)$ ', or, what amounts to the same thing, for ' $\Box (p \supset q)$ '. This appears to be (the basis of) an adequate explication of 'implies'. The appearance seems to militate against my thesis. I merely observe that this definition is only the last step of the required explication. If an adequate explication of the relevant use of 'necessary' is already available, then one merely needs to add this step in order to obtain one for 'implies'. By itself, though, the connection between these two uses is so obvious that all one needs to do is mention it once, as I did in one of my opening moves. Even so, the definition throws light on something else. It shows that the SC serves the purpose for which it is designed *because* and *not in spite* of the circumstance that the horseshoe standardizes the purely stipulative ('not both p and not q ') rather than the enthymematic use of 'if-then'.

2. SC, we just saw, does not contain a standardization of 'implies'. For some this was a source of dissatisfaction. In Lewis's case, this dissatisfaction probably was the major motive for his proposing the first MSC. There was also an incidental irritation. The purely stipulative 'if-then', which SC standardizes, behaves quite differently from 'implies'. Russell's proposal to read the horseshoe 'materially implies' was therefore irritating and indeed extraordinarily confusing. For this he has been blamed, justly, but also abundantly. So I feel no need to blame him once more. My point is, rather, that quite irrespective of whether or not it contains a word to be explicated, the proper philosophical use of a calculus, if any, is to speak *about* it and not, if I may so express myself, speak *it*, which we never really do anyway. This in turn fits with my conviction that a philosophical use, which literally makes no sense at all, is not the sort of thing that can profitably be standardized. Had this been seen clearly, there might not have been any dissatisfaction. Had there been no dissatisfaction, modal logics might not have been invented. Had they nevertheless been invented by mathematicians, their inventors might have felt required to present some arguments why philosophers should pay any attention to their invention, in addition to simply pointing at it as a supposedly adequate standardization of certain uses.

The specific occasion of Lewis's dissatisfaction were the two "paradoxes" of material implication. His first calculus (S1) was explicitly designed to forestall them. It was therefore a sort of *contretemps*, producing some disturbance, when it transpired that with one exception all MLC contain a pair of quite similar "paradoxes". (The exception, which I shall neglect, is S1. Unfortunately, S1 is so weak (see below) that it is quite uninteresting.) All this is water over the dam. Nor is there really a paradox in either case. My only purpose in bringing the matter up is to support what was said generally in the last paragraph by showing, in a very familiar instance, that the best way of dispelling the appearance of a paradox is exactly the same for both calculi. It consists, very simply, in distinguishing the 'infer (imply)' which we try to explicate by speaking *about* a calculus from whatever word we use when we speak *it*, i.e. from 'materially implies' in the one case, from 'strictly implies' in the other. Now for the thing itself. It will suffice, though, if I consider in each case only one of the two alleged paradoxes.

(a) ' $\sim p \supset (p \supset q)$ ' is a tautology. In view of the detachment rule for ' \supset ', which holds *of* (not, *in*) SC, it follows that upon the proposed explication of 'infer (imply)' from the nega-

tion of a sentence the negation of its conjunction with any other can be inferred. That is not paradoxical by any standard. Russell's careless formula, which may give the appearance of a paradox, was "a falsehood (materially) implies everything". The appearance is due to two inaccuracies. First, '(materially) implies', if used to read ' \supset ', must not also be used for the 'infer (imply)' of the detachment rule. Second, two instances of these two different uses have been contracted into one. To see that one merely has to consider that in Russell's misleading formula the sentence represented by ' p ' is mentioned only once. (b) ' $\Box \sim p \rightarrow (p \rightarrow q)$ ' is a theorem. In view of the detachment rule for ' \rightarrow ', which holds for all MSC, it follows that upon the attempted explication of 'infer (imply)' from the necessity of the negation of a sentence the necessity of the negation of its conjunction with any other can be inferred. Again, this is not a paradox. The careless formula, which may give the appearance of one, is in this case "an impossibility (strictly) implies everything". The appearance is due to the same two inaccuracies. To see that, replace 'materially' by 'strictly' in the last three sentences of (a).

3. One MSC is said to be stronger than another if all the axioms of the latter are either axioms or theorems of the former but not conversely. S1 is the weakest that has ever been considered. Since all tautologies are theorems of all MSC, the SC is, as a limiting case, the weakest of them all. In a different sense, it is the strongest. This is so because strengthening a calculus by adding to its axioms imposes on its modality operator more and more conditions, making it more and more similar to the identity operator. When the limit is reached, ' $\Box p \equiv p$ ' becomes a theorem, permitting the elimination of ' \Box ' from all formulae. (Technically, this is known as the extensionality of all MSC with respect to ' \equiv '.) What is left after the elimination is SC.

Lewis originally proposed two very weak calculi, S1 and S2. Presently the mathematicians began to play with his invention. What then happened, at least for a while, was that he and the mathematicians pulled, as it were, in opposite directions. (I put it emphatically for the sake of a pattern.) He favoured the weak calculi; they, the strong ones. His motive, or probable motive, we have come to understand. The "right" MSC must not be too strong; otherwise the behaviour of the hook too closely resembles that of the horseshoe, thus producing "inconveniences" almost, if not quite, as bad as the "paradoxes" of material implication. I shall next explain what I take to be the motives

of the mathematicians. This will give me the opportunity to make a philosophical point.

Unary operators can be iterated and combined without limitation. Mathematically speaking, ' \sim ' and ' \square ' are such operators. Accordingly, they produce in all MSC two series; ' p ', ' $\sim p$ ', ' $\sim \sim p$ ', ' $\sim \sim \sim p$ ', ...; ' p ', ' $\square p$ ', ' $\square \square p$ ', ' $\square \square \square p$ ', ...; as well as a third one, much more complex and not really a series in any obvious sense, in which each "prefix" consists of a number of ' \sim ' and ' \square ' in a certain order as, e.g. in ' $\sim \square \square \sim p$ ' and ' $\sim \square \sim \square p$ '. Mathematicians, we know, always want to prove as many nice theorems as possible. To do that in our case one must cut down the multiplicity presented by the three series. I speak, as I must, succinctly and even metaphorically. But a glance at the SC will permit those not familiar with these matters to grasp what is essential. In this case, which contains only the first series, ' $p \equiv \sim \sim p$ ' is a theorem. This theorem permits us to cut down the series by "reducing" each of its members to either ' p ' or ' $\sim p$ '. In the modal case, with its three series, the need for such reduction is even greater. To provide the means for it and to strengthen the calculus is virtually one and the same thing. That explains the mathematicians' interest in the stronger calculi. Consider, for instance, ' $\square \square p \equiv \square p$ ', which holds in S4 and often appears as its characteristic axiom. Clearly it "reduces" the second series to two members. This is the exact point where the philosophers came in.

Faced with this divergence of preferences among several calculi, a philosopher who remembers his own business will ask one question and one question only. Which sentences containing (nonvacuously) modal words (used philosophically) are logical truths? If he stands where I stand, the answer is: none. This we saw earlier. But we also saw that this answer suffices to deny the philosophical significance of all modal calculi. Those who in that situation debated the question naturally did not give this answer. (Nor did they use 'logical truth' as I do in this essay but, rather, philosophically.) The debate that ensued and to some extent still continues was absurd. To show its absurdity, I shall present three observations. Consider once more ' $\square \square p \equiv \square p$ ', which reads "Necessarily, necessarily necessarily p if and only if necessarily p ". Call it the critical sentence, since, as we just saw, it plays a rather critical role. Not surprisingly, therefore, some argued elaborately that it is in fact a logical truth. Some others disagreed or remained skeptical. Now for the observations. *First*: The arguments put forth were

all remarkably murky. More often than not they appealed to a special kind of intuition. From where I stand that could not have been otherwise. For the critical sentence contains a twice iterated philosophical use, thus mixing what can be said clearly only by distinguishing speaking, speaking about speaking, and so on. *Second*: Some logical truths are very complicated in the sense in which some very long mathematical formulae are complicated. These may be hard to recognize. In this sense the critical sentence is not at all complicated but very simple. Disagreements as to whether a sentence that simple *actually* is a logical truth are absurd and, therefore, an unmistakable sign that something has gone wrong very badly. *Third*: Disagreements of the kind just mentioned must be distinguished from controversies concerning the *proper explication of what we mean* when, speaking philosophically, we say that logical truths are necessary. Such controversies need not be absurd, even though they may lead to disagreements about whether some very esoteric arithmetical sentence *actually* is a logical truth. This I pointed out when I mentioned, in one of my opening moves, that the denotation of logical truth (in the narrower sense), even though rather firm, may still have a controversial fringe. Lest I be thought inconsistent, I now add that the arguments used in such controversies are very, very different from the arguments that were put forth by those who disagreed, absurdly, as to whether or not ' $\Box \Box p \equiv \Box p$ ' is a logical truth.

4. This comment is but a footnote to the third. A philosophical champion of MSC holds, or ought to hold, that ' $\Box A$ ' encodes what I express by saying that ' A ' (not, A) is a truth (sentence) of the kind called "necessary". Assume now that ' A ' actually is a logical truth as well as a theorem of a certain MSC. It follows that, as our friends read it, ' $\Box A$ ' is true as well as a *sentence* of the system. As must be abundantly clear from what has been said, I need not therefore expect that ' $\Box A$ ' is also a *theorem* of the system. Our friend, however, ought to expect it. In other words, he should expect that ' $\Box A$ ' can be inferred from ' A ' by a rule that holds of the calculus of his choice. It is not at all difficult to show that this rule holds of S4 and all stronger calculi but not of those that are weaker. Mathematically, everything is well. Lewis, however, and all those who on "philosophical" grounds opted with him for the weaker calculi, ought to have been puzzled.

5. Remember what was said earlier. For MSC there is no second or alternative way, comparable to the truth-table way, yielding, as the tables do, an adequate explication. This is what I said. I added

that no one ever *claimed* that there was such a way. But I did not *show* that there was none. Naturally not; for how would one go about proving a negative assertion of such sweeping generality? The best one can do is first specify, as broadly as possible, what an alternative way would have to be like and then, within the limits of the specification, attempt the proof. A theorem (Dugundji, 1940) which is also mathematically one of the most remarkable in the area suggests a specification and, within its limits, provides the means of proof.

The two-valued algebra defined by the truth tables is an adequate representation of SC. Mathematically (syntactically) this is the heart of the truth-table method; the "meaning" of 'T' and 'F' does not matter at all. Let me explain.

A unary operator co-ordinates to each element of a class one and only one other; a binary operator, to any ordered pair of elements one and only one other; a ternary, to any ordered triple; and so on. An *algebra* is a class in which some operators, usually rather few and all either unary or binary, are initially defined. If the class has n elements then the algebra is called n -valued. Write '1' and '2' for 'T' and 'F' and convince yourself that the customary tables for ' \sim ' and ' \supset ' co-ordinate to each element and to each ordered pair of elements of the class (1, 2) one and only one other. Thus they define a two-valued algebra with two (initial) operators. "Given" the class and the operators, the algebraist searches for identities. This and only this is the task of algebra. (The explanation, though most succinct, happens to be completely accurate.) To understand this use of 'identity', consider the infinite-valued algebra of the integers with addition as one of its operators. In this algebra ' $x + y = y + x$ ' is an identity. It follows, incidentally, that to write down (talk) an algebra instead of merely talking about it, one's apparatus must contain a sign for identity. The SC contains no such sign; for ' \equiv ' is of course merely an operator, making out of (co-ordinating to) two elements (*i.e.* sentences, say 'A' and 'B') a third (' $A \equiv B$ '). It follows that the SC is not an algebra and, in particular, not a two-valued algebra, as Lewis was unhappily fond of calling it. Mathematically the difference may again be slight. Yet it jeopardizes the distinction between statements in a calculus and statements *about* it. Not surprisingly, therefore, it added to the philosophical confusion.

Call for the moment a "calculus" any system, such as either SC or any of the several MSC, containing in addition to sentential variables only constants with formation rules similar to those of ' \sim ', ' \square ', ' \vee '. (All this can of course be made very precise.) An algebra is an *adequate representation* of a calculus if and only if the following three conditions are fulfilled. (a) A one-one correspondence between all constants of the calculus and some operators of the algebra has been established. (b) Some elements of the algebra have been singled out as "distinguished". (c) A sentence of the calculus is one of its theorems *if and only if* every possible evaluation of it by

means of the algebra yields a distinguished element. Two hints should be helpful. (1) Convince yourself that the two-valued algebra defined by the truth tables is an adequate representation of SC with 'T' as the distinguished value. This is but another way of stating the "completeness" of SC. (2) To grasp the general notion of evaluation, consider the four-valued algebra (1, 2, 3, 4) with the unary operator that co-ordinates 2 to 1, 3 to 2, 4 to 3, and 1 to 4. Assume that this operator has been made to correspond to ' \sim '. Then the four possible evaluations of ' $\sim p$ ' by 1, 2, 3, 4 yield 2, 3, 4, 1 respectively. In this algebra ' $p \vee q$ ' would have sixteen possible evaluations, their values depending on the "table" of the binary operator that has been made to correspond to ' \vee '.

An MSC has no finite adequate representation. This is Dugundji's mathematical theorem. Now for its philosophical use. Assume that it is false. Then there *might* be, say, a four-valued algebra that is an adequate representation of, say, S2. If so, then we *might* be able to make some nonmathematical sense out of it by reading its four values as say, '(contingently) true', '(contingently) false', 'necessary', 'impossible', just as we made such sense out of the two-valued adequate representation of SC by reading its two values as 'true' and 'false'. This would in turn have two consequences. For one, one *might* in this manner conceivably arrive at an adequate explication, very much in the style of the truth tables, of what could be meant by calling logical truths necessary. For another, 'necessary' *would* be a connective, or at least very much like one. Then one of the distinctions on which my whole argument rests would become doubtful, to say the least. Dugundji's theorem shows that none of these things can happen. That is why I said earlier that this bit of mathematics provides for my philosophical argument a closure not otherwise obtainable.

These are the five comments which are directly related to my thesis. I turn now to some odds and ends; first two comments of a different nature, fulfilling promises made in the introduction; then two concluding remarks.

Laws of nature are often felt and said to be "necessary". This use of 'necessary', though philosophical, is quite different from the one that concerns us. Some attempted nevertheless to employ modal logic for its standardization. How wrong-headed that is can easily be shown, at least in principle. I say in principle because some of these attempts are very elaborate. In some of them the difficulty I am about to point out may therefore not occur in as obvious a place. But I suspect that in some disguise or other it is bound to occur somewhere in any such attempt. Assume, then, not at all elaborately, that ' $p \rightarrow q$ ' is to be read " p causes (is the cause of) q ". If two states of affairs are jointly the cause of a third then, given one of the two, the other will cause the third, and conversely. For the standardization to be

reasonably adequate, (1) ' $p \cdot q \rightarrow r \equiv p \rightarrow (q \rightarrow r)$ ' would therefore have to be a theorem. If so, then, by substitution, (2) ' $(\sim p \cdot p) \rightarrow r \equiv \sim p \rightarrow (p \rightarrow r)$ ' also is one. But in all calculi in which ' $\Box \sim (\sim p \cdot p)$ ' is a theorem, the left side of (2) by itself is one. That follows directly from the theorem we encountered earlier which leads to the so-called paradox of *strict* implication. If so, then the right side of (2) would also have to be a theorem, which patently it is not. For, if it were, it would immediately lead to the paradox of *material* implication for the hook. This is the first comment.

The MSC known as S5 is isomorphic with the lower functional calculus without primitive relational signs, also known as the predicate calculus or the enlarged class calculus. This striking mathematical theorem (Wajsberg, 1933) can be used to illuminate sharply an important point in the history of philosophical ideas. I shall first explain the theorem. Replace in S5 the conventional variables, ' p ', ' q ', ' r ', . . . by ' f ', ' g ', ' h ', . . . and the square by another mark, say, two vertical bars. For example, ' $\Box p$ ' is replaced by ' $|f|$ '. The predicate calculus can be written with a single variable and, therefore, without any. Make this change and mark, as in this case you must, universality by another sign, say, again, two vertical bars. ' $(x)f(x)$ ' and ' $(\exists x)f(x)$ ' thus become ' $|f|$ ' and ' $\sim |f|$ ' respectively. So written, the two calculi are indistinguishable, every formula being a theorem either in both or in neither. This is Wajsberg's result. Now for its use. Notice first that if one wanted to put it glibly one might say that within the limits of the predicate calculus "generality" and "necessity" are indistinguishable. Remember next that Kant's logic, like everybody else's until rather recently, was a nonrelational subject-predicate logic without type distinction, that is, in substance, the predicate calculus. Remember finally that in Kant's system the general is also the necessary, and conversely. Wajsberg's theorem helps us to understand the success this explication enjoyed for a long time. This is the second comment.

The thesis I defended is part of a more comprehensive one. The larger task is to present and defend a satisfactory explication of 'necessary', or 'analytic', as applied to all logical truths (in the narrower sense). This I would do by using and, where necessary, modifying or supplementing what mathematical logicians know as validity theory. The task, I believe, is important. I have tackled it before and hope to return to it.

Now to conclude. The interests of mathematical logicians and philosophical analysts differ in many ways. If these differences

are understood and appreciated, there need be no clash. If not, something will probably go wrong. On our, the philosopher's side of this fence, some will be misled by their mathematical preoccupations; some will wholly reject what, if judiciously used, may yet be an indispensable tool. This idea threads all through this paper. In a sense it is the major theme, more important perhaps than the official thesis. For, as I see it, we are now passing through a period of over-réaction against mathematical logic. So an example of moderation may do some good. Following it, we may even earn some of the praise Voltaire bestowed on Locke, in a *mot* as neat as any of his sayings and a good deal profounder than some. *M. Locke nous a montré qu'on peut avoir l'esprit géométrique sans être géomètre.*

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IV.—AYER ON PERCEPTION¹

BY A. PHILLIPS GRIFFITHS

IN *The Problem of Knowledge* Professor Ayer is concerned with the nature of knowledge and with the problem which the sceptic poses as to the justification of claims to knowledge in various fields. He is, I think, more interested in showing that there is a problem to be faced, and how various philosophical positions arise in attempting to deal with it, than in providing answers. Where he does seek to resolve, he gives a description of the claim to knowledge rather than a justification of it. However, the concluding section of his chapter on perception is at least in the form of an argument in which, from certain premises, a conclusion is set out which, if it is correct, shows not only the nature of claims to perceive something, but also how we are justified in making such claims. So far as I know, and so far as I understand it, this argument is new.

Ayer states the problem of perception as that of "justifying our claims to know how physical objects are on a basis of knowing only how they seem" (p. 124). He says "In another aspect it is the problem of setting out the relationship between perceiving a physical object, and seeming to perceive it" (p. 124). He is not using the expressions "knowing only how they seem" and "seeming to perceive" in their usual sense. The common implication involved in saying that one seems to see something, that one is at least doubtful that one does see it, is explicitly removed by Ayer from the sense of the word "seem" he wishes to use. In his sense, seeming to perceive is a necessary, but not sufficient, condition of perceiving. While "I seem to see an x" may not be incorrigible, it is corrigible in fewer ways than "I see an x"; it will be true whenever "I see an x" is true, and on other occasions as well.

The problem is the traditional one which faces the empiricist, and Ayer tries to provide an answer within its terms. What is challenged is the move from sensation to real existence, from subjective to objective, from mere appearance to the independently real, from what is true only of one's own experience to what is true apart from one's experience. He rejects the 'causal' theory, in which the move from statements about experience to statements about things is justified in terms of a causal principle

¹ I am grateful to Professor Ayer for his comments on an earlier draft of this paper.

to the effect that things cause our experiences ; and he rejects the phenomenalist or reductionist theory which in effect denies the move as a substantial one by treating statements about the latter as restatements of statements about the former. His ground for these rejections is that both theories fail to deal with what he picks out as the second aspect of the problem ; they both misrepresent the relation between seeming to perceive and perceiving.

In the case of the causal theory, we are content to assert such a relationship independently of the causal principle adumbrated. In the case of the phenomenalist theory, the translation of statements about what is perceived into statements about what seems to be perceived is in principle impossible ; because the specification of special circumstances to account for illusions, etc., will in turn require translation, and the specification of further special circumstances, and so on *ad infinitum* ; thus no sufficient account of the meaning of what is perceived could be given entirely in terms of what seems to be perceived.

Ayer tries to give a solution which, while different from either of these, is still within the terms of the traditional empiricist approach ; that is to say, in which a philosophical account of what is appealed to in the justification of claims to perceive is given which involves nothing beyond the subjective world of seeming. Similarly, in dealing with the other aspect of the problem—in setting out the relation between seeming to perceive an object and perceiving an object—the relation must be such that it is possible to settle an issue with regard to whether a physical object exists by reference to the appearances alone.

In what follows, I shall mainly be engaged in the negative task of showing how Ayer's thesis in this chapter is unsatisfactory. This task is not *merely* negative however, since in dealing with it I hope to throw light on what might be called the empiricist predicament, and on the nature of the sceptical problem with which Ayer is concerned. I shall argue that first, Ayer has failed to show that only what seems to be perceived, or the appearances alone, are relevant to the question of the existence of a physical object ; that second, that in the specific sense Ayer gives it, this empiricist position is in fact false ; that third, in consequence the sceptical position, stated within Ayer's terms, is impregnable ; but that fourth, the crucial question must then be opened of the propriety of the statement of that position.

(i) Ayer's solution is that while no enumerable set of statements about what seems to be perceived can be regarded as logically equivalent to any statement about what exists, at least some

statement about what, given relevant circumstances, seems to be perceived, must cease to be true when any statement about what exists ceases to be true. If p is a statement concerning a physical object, then when it is true there will be a statement q concerning what would in relevant circumstances seem to be perceived which is true, but which would be false if p were false. This connection —(C)—between statements about what seems to be perceived, and what is, is not a connection between given sets of statements ; but there is a strict logical connection at a certain point, in terms of which the looser connection (C) can be shown to hold.

The sense which Ayer gives to "seeming to perceive" is such that seeming to perceive is only a necessary condition of perceiving and the existence of an object is also only a necessary condition of perceiving it. Some further relation between seeming to perceive and the existence, or non-existence, of objects, must be established, if the problem is to be more than merely stated.

Ayer claims that there are two sets of circumstances in which it is possible to state a strictly logical connection between what seems to be perceived and the existence of physical objects. This gives two logically guaranteed principles. They are :

Principle (A)

If a physical object x is supposed to be perceptible, and if there are no circumstances whatsoever in which x would seem to be perceived, x does not exist.

Principle (B)

If in what appeared to be the relevant setting a physical object x would always seem to be perceived no matter what further experiences were obtainable, then x exists.

These two principles are used in limiting cases in order to justify the connection (C) between statements of what seems to be perceived and statements about what exists. If any statement asserting or denying the existence of a physical object is true, one of these conditions must hold. But where any such statement is false, the relevant condition cannot hold, and among the appearances there must be one at least which throws doubt on the statement concerned. Thus, if I seem to perceive something which is not there, or seem to perceive the absence of what is there, there would have to be a modification of what would *seem* to be perceived in all circumstances. Thus the statement of existence or non-existence of a physical object is at least in principle corrigible, the evidence required *being available in the realm of what seems to be perceived*. It is this which justifies us in

counting what seems to be perceived as evidence for what exists. That neither principle ever actually applies to any physical object may well be true, but does not affect the point made.

How far is Ayer justified in asserting a strict logical connection between what would seem to be perceived, and what exists, even in these two sets of special conditions?

(1) *Principle (A)*

(If a physical object x is supposed to be perceptible, and if there are no circumstances whatsoever in which x would seem to be perceived, x does not exist.)

If a physical object is not supposed to be perceptible, but imperceptible, then we should not expect it to put in an appearance at all. This principle would also obviously not apply to any object which was wrongly supposed by someone to be perceptible, as a child might wrongly suppose a photon to be a perceptible physical object. We must assume that the object must be supposed to be perceptible in the sense that perceptibility is one of its defining characteristics. It will then make no sense to deny its perceptibility, though it will make perfect sense to deny its being perceived on any particular occasion. It does not follow that it will make sense to deny its being perceived on every particular occasion, that is to say, in all possible circumstances; and indeed such a denial would be senseless, for it is senseless to speak of an object's being perceptible if we at the same time deny that there are any among all possible circumstances in which it would seem to be perceived. Given the assumption that the object in question is supposed to be perceptible in this sense, then it clearly follows that principle (A) is logically true.

But while treated in this way principle (A) is logically true, it will be useless as a limiting principle in terms of which the connection (C) can be justified. For it sets up a logical connection, not between what exists and what seems to be perceived, that is, not between true statements about existent objects and the appearances, but rather between what exists and what seems to be perceived in all possible circumstances, between true statements about existent objects and appearances which occur in all possible settings. Now it is an open question what these circumstances or settings may particularly be, and if it does not follow from principle (A) that they must be specifiable entirely in terms of appearances or what seems to be perceived. All possible circumstances may include conditions not so specifiable. It might be thought that material objects can only be perceived

give the activities of an occasionalist God, or of a Cartesian malignant omnipotent. In such a case inferences from what appears to what is are unjustified in the absence of knowledge of such matters ; and what is ordinarily taken as perceptual knowledge must be thought of as in itself a sort of error, a ' knowledge from vague experience ' which is not true knowledge at all.

On the other hand, if we amend principle (A) to read :

If a physical object *x* is supposed to be perceptible (i.e. such that there is one of all possible circumstances at least in which it seems to be perceived) then if throughout the sub-class of possible circumstances specifiable entirely in terms of what seems to be perceived, *x* does not seem to be perceived, *x* does not exist.

then it is no longer logically true. Its use in establishing the connection (C) would convince only if it could be assumed that all possible circumstances are specifiable in terms of appearances. But the metaphysical position that ultimate reality consists of sense-data cannot be assumed.

Principle (A) could be made logically true, while the circumstances referred to in it do not go beyond the range of appearances, by stipulating that ' perceptible physical object ' means ' such that the whole range of appearances includes an appearance of it ' or at least ' such that the whole range of appearances would include an appearance of it, given only an observer '. This step would enable us to use principle (A) to establish the connection (C). The question is whether this step is justified.

It may seem that certain important classes of objects can be regarded as physical objects defined as perceptible in just this way. Would we call anything a cow if it were invisible, intangible, etc.? Would we call anything a stone if it were similarly not accessible to the senses? If so, how could it be said to be made of stone? We would not; therefore unsensible cows and stones do not exist.

This is, after all, only common sense. And for that very reason, in this context, it as clearly will not do. Our reluctance to call anything a stone which is invisible and intangible is not something which proceeds from a mere definition. If someone told me that the diamond in his crown was an extra-special one, that though enormous it is so translucent that no test could detect it, my credulity might allow me to think he had *something* in his crown. But how could it be one of the allotropic forms of carbon? And if not, it could not be said to be a diamond, if what I was told in school was true and I am remembering it correctly.

The sheer impossibility of unsensible cows and diamonds is a scientific impossibility. But it is possible that our scientific theories are wrong. Or that they are right, but God or something interferes here and there. Or that they are right but only right because God keeps letting us see things, so that while no material object exists which does not put in an appearance there are plenty of unrealised possibilities in which material objects would never put in appearances; for example, if God so willed it.

If we insist on defining 'physical object supposed to be perceptible' in this way, the whole question is whether cows and stones are perceptible physical objects.

Finally, one might say that 'perceptible' meant 'such that one can make true statements about it on a basis of what one seems to perceive', i.e. 'such that the evidence of one's senses are relevant to the truth of statements about the object concerned.' But now the principle (*A*) would be an attempt to define the sceptical problem out of existence. The whole question would then be whether there are, or could be, any objects so perceptible.

(2) *Principle (B)*

(If in what appeared to be the relevant setting a physical object *x* would always seem to be perceived no matter what further experiences were obtainable, then *x* exists.)

In discussing principle (*A*) I examined what would follow from three interpretations of what the relation between an object and what seems to be perceived must be, if it is to be perceptible. These were:

- (1) An object is perceptible if there are some among all possible circumstances in which it would seem to be perceived.
- (2) An object is perceptible if there are some among all possible circumstances in which it would seem to be perceived, and there are no possible circumstances which cannot be specified entirely in terms of what seems to be perceived.
- (3) An object is both a physical object and perceptible if the whole range of appearances includes an appearance of it, and not otherwise.

On interpretations (1) and (3), the principle (*B*) is not logically true. An object which must in some circumstances (however specified) seem to be perceived if it does exist need not be one which must exist if it always seems to be perceived.

On interpretation (2), principle (*B*) follows. But this interpretation involves a metaphysical presupposition—that ultimate reality consists of sense-data—which stands in need of justification.

If, finally, we regard calling an object perceptible as implying that the evidence of our senses can be relied on in coming to conclusions about it, then clearly if an object is perceptible, and it always seems to be perceived, it logically follows that we can say that it exists. But, again, to establish this is to establish nothing against the sceptic; for what he questions is whether any objects are in this sense perceptible; or, if they are so by definition, whether any such exist; and, if so, which are which.

(ii) If what I have said so far is right, Ayer has not succeeded in establishing that the truth or falsity of any statement about a physical object can be determined entirely by reference to the further appearances that are in principle attainable.

I now wish to argue that what Ayer has sought to establish is in fact false. But I do not want to say that the existence of physical objects can be determined by any other means than looking, touching, etc., nor to join with the sceptic in saying that their existence cannot be determined at all. I want only to deny that the presuppositions of this common sense position involve reference to matters entirely determinable within the range of appearances; to argue that there is a set of conditions which must obtain if a claim to perceive a physical object is justifiable, which is outside this range.

Objects which in no conditions put in an appearance to more than one person are often accounted to be hallucinations. This is usually because we have no reason to think there is anything there beyond the idiosyncratic perceptual report, and because we usually have reason to think there is nothing there. Such reasons are given in terms of what we commonly perceive; for example, if someone claimed to see a Sandman who dusted the eyes of children kept up beyond bed-time, we should be sceptical about this because we have grounds for thinking that such physiological conditions as the pricking of tired eyes are due to other causes. We sometimes explain these hallucinations in terms of abnormal physiological conditions in the person claiming to perceive them. These explanations do not constitute the hallucinations, however. For they can be explanations of abnormally sensitive perception as well as of failures. The status of such apparent perception as hallucination appears to depend on theories we have about things, based on what we see in common. Moreover, we might account something which appeared to one person only to be veridical, and no hallucination at all, if what were seen were otherwise detectable. For example, if on some independent ground we were forced to abandon our physiological theories about the pricking of tired

eyes, we might then decide that there really was a Sandman, though he was visible only to one person, if that person both seemed to see him, and was on a basis of what he seemed to see able to predict what others would feel in their eyes. Objects perceptible only to one person may be safely accounted hallucinations, and on other occasions—when detectable by others—safely said to exist. There may be occasions when we can safely say neither; it is at least possible that an object may exist which is perceptible to only one person and detectable by no one else. To admit the possibility of the Sandman seen by only one person and detected by others is to admit the possibility of the Sandman, too lazy to pursue his avocation, seen—really seen—by only one person, and detected by none.

But in the case where the object concerned seems to be perceived by only one person, and is otherwise undetectable, it is impossible to decide in practice whether we have an example of an hallucination or not. It is a mistake to call such cases perception, for to perceive a person must know what is there; 'extra-sensory perception' is a misnomer for good guessing of unseen cards, because the subject never knows when he is guessing right. For anyone with such powers, or the appearance of them, they are in regard to them in precisely the position which the sceptic claims we are all in with regard to all apparent perception.

The claim to perceive in these extraordinary circumstances makes sense, yet it can never be more than a mere unsubstantiated claim. This may sound paradoxical; how can we make sense of a claim made in conditions which rule out the possibility of possession? We can make sense of such a claim just because there are other cases of claims which do not have to remain unsubstantiated. Without this, there would appear to be no proper occasion for making any such claim; the concept of perceiving, so far as it is knowing what there is on the basis of what appears, loses all application. That this is indeed the case is the sceptical doctrine.

The sceptical doctrine must be accepted, and it must be admitted that no claim that one might possibly be perceiving has point, unless one admits that what one perceives in some cases is at least detectable by others; and no claim that one actually is perceiving is proper unless one claims that what one perceives in this particular case could actually be detected by others. Detection by others requires perception by others at some point. It follows that in Ayer's sense of 'seeming to perceive', it is essential to perception that there must be some conditions in which more

than one person seems to perceive the object concerned ; or, if only one does, that more than one person seems to perceive some, but not necessarily the same object.

We do not in practice require ourselves on every occasion to establish that others do, or can, seem to themselves to perceive what we claim to perceive. But in claiming to perceive we do presuppose this. This presupposition constitutes a condition which must obtain if a claim to perceive a physical object is ever justifiable, and without which the sceptical doctrine must be accepted. But this condition is not one which can be included within the range of the appearances which can be obtained by anyone who ever makes a claim to perceive. It is for this reason that Ayer's limiting cases are useless for the justification of perceptual judgment.

Two possible objections to what I am saying may make it clearer.

The first objection is that while of course as a matter of fact the appearances are not all available to any given person, some of them being the inalienable possession of others, this is only a contingent fact ; and the principles (*A*) and (*B*), which apply in circumstances which are hardly likely to be factual in any case, could easily accommodate the condition that the appearances are all available to one person.

What this condition would have to amount to is that there is only one person in the universe. It would not suffice that one person is aware of what he himself seems to perceive, and also of what others seem to themselves to perceive, for he could be mistaken and only seem to perceive what others seem themselves to perceive. In order to avoid this, it is necessary to postulate not that one person shall be aware of what others seem to themselves to perceive, but that all cases of seeming to perceive shall be cases of one and the same person seeming to perceive.

Such a person would at least not suffer under the difficulty (whatever other difficulties there may be) that given the circumstances that an object in all cases, or in no cases, seems to him to be perceived, his further claim that he is perceiving its presence or absence requires that others also do or do not seem to perceive it—a requirement which cannot be said to be satisfied by reference to the appearances available to him alone. But even though it is logically possible for a person to be in this position, his claim to perceive requires more than is given in the range of appearances. For a man to claim that he is all the people, and thus in a situation in which ' it is logically impossible to fool all of the people all of the time ' , is to claim to know that there are no cases of seeming

to perceive other than his own; and this he could not know through an inspection of his own.

It follows that Ayer is wrong in claiming that if any given person is fooled, it is logically certain that "the proof that he is fooled is itself to be found among the appearances . . . that different sense-data are obtainable from those that one would expect to be obtainable if he were right".¹ For while it may be true that different sense-data will be obtainable by somebody or other, these will not be available to him; hence it could never constitute a proof for him. Since this is true of everybody where there is, and even where there may be, more than one person, it could never constitute a proof for anyone; which means that it could never constitute a proof.

The second objection is that what I say about what others seem to perceive, I say in order to explain the succession of my own sense-data. Thus, if I seem to see a man blanch, I explain this by saying he seemed to see a ghost. Ayer explains the relevance of what we seem to see to what physical objects exist by claiming that the very function of talk about physical objects is to elaborate "a theory as to the evidence of our senses". "The theory is richer than anything that could be yielded by an attempt to reformulate it at the sensory level. But this does not mean that it has any supply of wealth other than the phenomena over which it ranges."² It might be claimed that a similar point could be made about the function of talk about what others seem to perceive; but it would be mistaken to do so.

Ayer's point that the language concerning physical objects functions to state a theory about our sense data is of value in dealing with the sceptical problem only if it can be maintained that statements about perceptible objects are *no more* than parts of a theory about actual and possible data; for if there were more than this, it would not follow that all that is claimed in making such statements could be settled by reference to the succession of appearances alone. Now it cannot possibly be claimed that statements about what others seem to themselves to perceive are no more than theories about what I seem to perceive, though of course they may function in explanations of why I seemed to see what I did (or of what I did see). This claim is impossible because the verb "to seem to oneself to see something" is conjugable without loss of meaning. "It seems to me that I see an x" said by me, and "It seems to him that he sees an x", said about me, say the same thing about me. Thus if statements about other people's sense data are parts of a theory about mine,

¹ *The Problem of Knowledge*, p. 146.

² *Op. cit.* p. 147.

statements about my sense data are parts of a theory about other people's. Statements about other people's sense data must be regarded as statements about events which are in no way logically determined by the occurrence of my sense data.

Ayer's solution of the sceptical problem leads him to the conclusion that statements about physical objects are statements about entities of an inferior ontological status to the objects referred to in statements about sense data. But this step is unable to solve the further problem about how we assure ourselves of the occurrence of sense data other than our own ; other people's sense data cannot be of a different ontological status from our own, because we are all other people.

Within the terms of the discussion set by Ayer, then, it seems clear that the conditions for an object's being said to be perceptible include factors which are not themselves part of the range of appearances accessible to one person in any universe where there is more than one person ; and that complete specification of the conditions in which it is proper to assert that an object is perceived must include reference to such factors. These factors are at least the occurrence of cases of seeming to perceive on the part of others.

(iii) It follows from what I have said that the sceptical position is impregnable within the terms stated. The sceptic is represented as asking us to show that we can justify claims to perceive things entirely in terms of what we seem to perceive in Ayer's sense ; and since this claim requires reference to what others seem to perceive, the answer must be that we cannot justify our claims to perceive in this way.

The sceptical position is stronger than the mere presentation of an unanswered question ; it is a philosophical doctrine, not the mere expression of an idle doubt. It is not sufficient to say that we will simply assume that others seem to perceive certain things. Because the sceptic can point out that our only possible basis for this assumption in general, and for confirmation of it in particular, is the evidence of our own senses : what we ourselves seem to perceive. Our senses inform us of the perceptual testimony of others ; but we cannot properly claim to trust our senses apart from the perceptual testimony of others. There is thus a necessary condition of the propriety of perceptual claims which itself depends on the propriety of perceptual claims ; a condition whose fulfilment depends on its own prior fulfilment.

We must in all honesty say at this point not merely that a sceptical problem has not been solved, but that a sceptical doctrine

appears to have been established ; for it seems that there is an incoherence at the root of all claims to perceive.

(iv) The strength of the sceptical doctrine lies in the fact that while the propriety of claims to perceive depends on the possibility of public checks, these public checks themselves are possible only if an inference from private experience to objective fact is justified; and this inference itself could only be justified by the use of public checks. If the sceptical doctrine is to be undermined it must be shown that this vicious circle is only apparent. This could only be done by showing that even the claim to seem to perceive involves the presupposition of the possibility of public checks. It would not then be possible to say that given the appearances, a further assumption, namely the possibility of public check, is required, which could only be applied if the inference from the appearances to objective fact is already justified, in order that such inferences may be justified ; for this assumption is already made in taking the appearances as given.

The difficulty arises because we see that the propriety of perceptual claims is dependent on the possibility of publicly checking them. It can be resolved if we can show that this is a consequence of a much more general requirement ; that the claim that one is considering anything at all, that what one says to oneself is meaningful, is impossible without public rules of language, the tests for the correct application of which are public. This issue can hardly be regarded as settled ; but I hope that what I have said shows its crucial importance. Ayer, however, has tried to settle it ; and I shall conclude by trying to show that his case for saying that a private language must be thought to be possible does not succeed.

Ayer's argument on this issue is of the form of a *reductio ad absurdum*, briefly as follows : In a private language, it is claimed there is no check except memory on the rules governing the use of expressions involved. But there can be no check on memory beyond what we seem to remember ; this is as much as to say : there is no check. But where there is no check there can be no rules, and hence no language.

But if this argument were accepted, Ayer goes on, all language must be impossible, public language included. For whatever check we apply, we must be able to recognise its results ; we must be able simply to recognize a word, or a record, or a piece of testimony, for what it is. "... unless there is something that

¹ Symposium : "Can there be a Private Language ?", *Proc. Aristotelian Soc. Supplement*, p. 68.

one is allowed to recognise, no test can ever be completed: there will be no justification for the use of any sign at all". Again "...¹ if one never accepted any identification without a further check, one would never identify anything at all".

We must depend on our power of recognition in order to apply public checks; so we must be able at some point simply to recognise without applying any public check. Therefore so far as public language is possible, so must private language be possible. No more need be admitted than that the point at which we must simply claim to recognise, without further appeal to checks, comes in the case of private language earlier.

Ayer's argument depends on opposing a public process of checking to a private process of recognition. But the whole point of the argument against the possibility of private language is not to show that 'simply recognising' is impossible, but that it is impossible if it is regarded as purely private in any but the trivial sense that if I recognise, *I* recognise, not somebody else. The argument does not imply some kind of regress of claims to recognise each of which has to be checked by its successor for ever, or which comes to some arbitrary stop which makes the process look as if it need never have begun. One may simply recognise something straight off; but this is not a proper claim unless the possibility of public check is admitted. The check does not have to be applied in order that the claim may properly be made. Of course, if the check is demanded, it cannot be applied by anyone who is unable simply to recognise its results. But this claim to recognise its results is in turn proper only if public checks are possible. The argument does not claim that there is anything one cannot just recognise, and hence does not imply that no test can ever be completed; nor does it imply that one should never accept an identification without a further check, but only that the possibility of the correct acceptance of an identification implies the possibility of check.

The undeniable fact that all recognitions cannot be tested does not imply that there is any recognition which cannot be tested. It cannot rain every day this year, but that does not mean that there is any day this year on which it cannot rain.

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¹ *Problem of Knowledge*, p. 64.

V.—GRAMMAR AND EXISTENCE : A PREFACE TO ONTOLOGY

BY WILFRID SELLARS

I

My purpose in this paper is to examine the current dogma that to sanction the move from

- | | |
|---------|----------------------------------|
| | (1) S is white |
| to | |
| | (2) (Ef) S is f |
| or from | |
| | (3) S is a man |
| to | |
| | (4) (EK) S is a K |
| or from | |
| | (5) Tom is clever or Tom is tall |
| to | |
| | (6) (Ep) p or Tom is tall |

is to commit oneself to the existence of *entities* of a higher order than perceptible individuals. I shall begin by assuming that if these moves, each of which is a form of what is called 'existential quantification', do involve a commitment to such entities, the entities in question are such straightforward abstract entities as Triangularity, Mankind and the proposition *that* Tom is clever. I shall subsequently turn my attention to the idea, recently elaborated by Peter Geach, but which stems from the work of Gottlob Frege, that what one is committed to by these moves, or their ordinary language counterparts, is not *abstract individuals*, entities which ape the individuality of perceptible things, but rather what, for the moment, I shall simply refer to as *non-individual entities*, entities which have no *names*, but are, somehow, *stood for* by parts of speech other than names.

I shall begin by exploring the move from (1) to (2), taking as my point of departure the fact that the latter is often 'informally' rendered by

- (2¹) There is an f such that S is f.

For, I believe, a careful examination of this 'reading' will enable us to put our finger on the source of the dogma in its first or orthodox form.

Now a first glance at (2¹) may well lead one to think that the expression 'an f' in 'There is an f . . .' has the form of the particle 'an' followed by a variable which takes common nouns, or expressions having the force of common nouns, as its values. Another glance, however, raises the question, "If the first 'f' is a common noun variable, must not the same be true of the second?" One sees immediately, however, that if the second 'f' were a common noun variable, the 'white' from which the quantification began would have to be a common noun. We should accordingly expect (1) to read,

(1¹) S is a white

and even if we hastily transform (1¹) into

(1²) S is a white thing

we are startled to think that 'quantification over predicate variables' involves the questionable idea that 'S is white' has the form 'S is a white thing', or must be transformed into the latter as a condition of the quantification. We also notice that this line of thought carries with it the implication that (2¹) should read

(2²) There is an f such that S is an f

Now it is perfectly clear that something has gone wrong; a conviction which is conclusively reinforced by the reflection that if we "read"

(7) (Ex) x is white

as

(7¹) There is an x such that x is white

parity of reasoning would require us to interpret the second 'x' as a common noun variable, which it simply cannot be.

What, then, are we to make of the expressions 'an x' in (7¹) and 'an f' in (2¹)? Since we cannot dodge the fact that in their ordinary use the context 'a(n)—' calls for a common noun to fill the gap, is there any other way than the above in which these expressions can be construed in terms of common nouns? The answer, of course, is obvious to one who knows the literature of the problem, for one immediately thinks of those curious common nouns 'individual' and 'quality', and of the locutions, 'There is an individual . . .' and 'There is a quality . ..'. Surely, then, it is the *category* words, 'individual' and 'quality', which belong after the 'There is a . . .' in the 'informal readings' of (2) and (7).

If we follow up this line of thought, we end up with *something* like

(2³) There is a quality, *f*, such that *S* is *f*.

and

(7²) There is an individual, *x*, such that *x* is white

and with the idea that the '*f*' which occurs in the context '*an f*' of the original 'informal reading' is playing a dual role: (a) the role of the category word (*constant*) 'quality'; (b) the role of a *variable* which reappears at the end of the sentence. But is (2³) a well-formed sentence? Here is the rub; for notice that 'There is a quality, *f*, . . . ' commits us to the form

(8) *f* is a quality

and, if 'white' is to be a value of '*f*', to

(9) White is a quality.

But if so, this means that just as 'quality' plays in (9) a role analogous to that of 'man' in 'Tom is a man', so 'white' is playing a role analogous to that of 'Tom'. We have, it appears, avoided the Scylla of turning 'white' into a *common noun*, only to whirl into the Charybdis of the idea that 'quantification over a predicate variable' involves turning it into a *proper name*, with a consequent commitment to Platonism. And this fact stands out even more clearly if we replace our original sentence (1) by

(10) *S* is triangular.

For whereas 'white' can play both the adjective and noun roles, so that (9) is a proper English sentence, we must actually transform 'triangular' into 'triangularity' to get the statement which corresponds to (9), namely

(11) Triangularity is a quality.

II

I asked a moment ago if (2³) is a well-formed sentence, and we now have serious grounds for doubt. For while, as we have just seen, the first '*f*' in (2³) must be a variable which takes such *singular terms* as 'white(ness)' and 'triangularity' for its values, the *second* '*f*' is required by its context, namely "*S* '5 is —", to take *adjectives*. If, therefore, '*f*' is to be the same variable throughout the sentence, the concluding context must be reformulated to admit of a variable which also takes singular terms. How this might be done is no mystery. We simply construct our variable with the aid of the most convenient of the suffixes

which are used to form abstract nouns from adjectives, thus 'f-ness', and rewrite (2³) to read

(2⁴) There is a quality, f-ness, such that S has f-ness

and discover that what our 'informal reading' of (2) has given us is an existential statement which stands to

(1¹) S has whiteness

as 'There is a man, x, such that S loves x' stands to 'S loves Socrates'.

Well, then, to go from (1) to a quantified statement in which 'the predicate is quantified', must we first, in effect, transform it into (1¹)—in which, after all, the predicate is no longer '(is) white' but 'exemplifies whiteness'? Does all quantification presuppose a point of departure in which the constants to be replaced by variables are *singular terms*? The answer, surely, is a categorical No. The contrary supposition is generated *not* by reflecting on the logic of quantification as such, but by reflecting, as we have been doing, on an 'informal reading' of quantified statements, a reading which may have much to recommend it in the way of making certain logical relationships intuitive, but is far from giving us the *ordinary language equivalent* of these quantified statements. The 'informal reading' is a *contrived* reading which generates puzzles as soon as its auxiliary role is overlooked, and it is made the focal point of philosophical reflection on quantification and existence.

III

But what, then, it may well be asked, is the correct reading of (2), if it is neither 'There is an f such that S is f' (2¹) nor 'There is a quality, f-ness, such that S has f-ness' (2⁴)? In other words, how *would* we ordinarily say what the logician says by means of (2)? Now it is easy enough, if I may be permitted a paradox, to *invent* an 'ordinary language equivalent' of (2). One simply begins by noting that the force in the case of quantification over variables of type 0, the force of '(Ex) x is white' (7) is captured by

(7³) *Something* is white

and proceeds to represent (2) by

(2⁵) S is *something*.

The latter both preserves the form '... is ...' (as contrasted with '... has (or exemplifies) ...') and, by avoiding the reading 'There is an f...' bypasses the stream of thought explored in sections I and II above.

Now, if we could convince ourselves that (2⁵) would be a *reasonable* invention—or, better, that it isn't *really* an invention at all—we would have gained an important vantage point in the battle over abstract entities. The above suggestion, however, in the absence of an elaborate interpretation and defence, is scarcely more than a promissory note. And there is no dodging the fact that most if not all of the general statements we make which correspond to logistically formulated statements in which there is quantification over variables which take adjectives, common nouns, verbs and sentences for their values, do involve the use of category words. And since the use of category words involves a *prima facie* commitment to abstract singular terms such as 'Triangularity'—and others which we shall be exploring in a moment—the question naturally arises, 'Does the use of these singular terms involve a commitment to Platonism?'

But before we begin to explore the significance of the fact that we do make use of category words and abstract singular terms, it is important to dwell for a moment on the claim which is implicit in the argument up to this point. This claim—which it is my purpose to defend—can be summed up by saying that one no more has to construe '(Ef) S is f' (2) as saying 'There is a quality, f-ness, such that S has f-ness' (2⁴) than we have to construe 'S is white' (1) as *really* saying 'S has whiteness' (1¹).¹

¹ It might be thought illuminating to replace the original statement, (1), by

(1¹) S : Whiteness

and the statement

(9) White is a quality

by

(9¹) Whiteness : Qualitykind

and to say that in (1¹) 'Whiteness' is the 'predicate', whereas in (9¹) it is the 'subject'. It must be pointed out, however, that one has not shown that (1¹) is not simply a *rewriting* of the *categorical counterpart* of (1), namely

(1¹) S has whiteness

[that 'whiteness' is juxtaposed to 'S' says that S has whiteness] or, indeed, a rewriting of (1) itself [that 'whiteness' is juxtaposed to 'S' says that S is white]—in which case the singular term 'whiteness' would be a sham—unless one sketches the *modus operandi* of a new form of language which breaks away from our ordinary categories of 'singular term', 'common noun', 'adjective', etc., and which cannot in any straightforward sense be translated into the language we actually use. That (1¹)—or (1)—could be *rewritten* as (1¹), and that (9) could be *rewritten* as (9¹) has not the slightest tendency to show that they have a common logical form to be represented by '— . . .'. Compare Peter Strawson's contribution to the symposium on "Logical Subjects and Physical Objects", *Philosophy and Phenomenological Research*, xvii (1957), and my criticisms thereof.

Another way of making this claim is by saying that the widespread view that the introduction of predicate variables carries with it the use of such category words as 'quality', 'attribute', or 'property' is simply a mistake.

Indeed, from this point of view, not only is the 'introduction of the category word "quality"' a distinct step in 'committing oneself to a framework of qualities', this 'commitment' involves the introduction of a *new* set of variables ('f-ness' as opposed to 'f') and a set of singular terms (*e.g.* 'whiteness', 'triangularity') to be their values. According to this claim, it is a mistake to suppose that a *predicate* variable belongs in the context '... is a C' where 'C' is a category word. Thus 'f is a quality' (8) would be ill formed, the proper expression being

(12) f-ness is a quality.

For while the singular term 'Socrates' belongs in both the ordinary context 'Socrates is a man' and the categorizing context

(13) Socrates is a particular

and the singular term variable 'x' belongs in both the context '— is white' and the context '— is an individual', 'triangular' must be turned into 'triangularity' and 'f' to 'f-ness' as one moves from 'S is —' to '— is a quality'. The reason, of course, is that 'Socrates' is a singular term, and 'x' a singular term variable to begin with, while 'triangular' and 'f' are not. (It should not be assumed that 'Socrates' is unambiguously the same singular term in both cases).

IV

Before taking the next step in the argument, it will be useful to develop the parallel claim—which I also wish to defend—in connection with the move from 'S is a man' (3) to '(EK) S is a K' (4). To read (4) as

(4¹) There is a K such that S is a K

and to take the context "There is a K . . ." seriously leads one to

(4²) There is a class,¹ K-kind, such that S is a *member* of K-kind

¹ By no means all common nouns and common noun expressions stand for *kinds* of thing. Kinds are a distinctive subset of *classes*, and we speak of the *instances* rather than the *members* of *kinds*. Since I am not concerned in this paper with the distinctive character of kinds, I shall refer to kinds simply as *classes* and speak of their members rather than their instances.

just as 'There is an *f* such that *S* is *f*' (2¹) led us to 'There is a quality, *f*-ness, such that *S* has *f*-ness' (2⁴). Furthermore, just as 'S has whiteness' (1¹) is the *categorical counterpart* of (1), so

(3¹) *S is a member of mankind*

is the categorical counterpart of (3). And, it seems to me, 'man' is no more functioning as the *name* of a class in (3) than 'white' is functioning as the *name* of a quality in (1). Furthermore, just as the 'is' in the latter is not 'has' or 'exemplifies' in disguise, so the 'is a' in the former is not 'is a member of' in disguise. It is surely as incorrect to regard 'S is a man' as a class-membership statement, as it is to regard 'S is triangular' as a quality-exemplification statement.

The 'introduction of classes' as *extensional entities* takes its point of departure from common nouns (and expressions having the force of common nouns) which are applied to a certain domain of logical subjects—where a logical subject is, roughly, an item referred to by a singular term.¹ If we limit our attention to classes pertaining to physical things, the point I wish to make can best be put by saying that once one has made the move from statements of the forms

(14) *S is a K*

and

(15) *S is an f-thing*²

¹ The term 'individual' is often used in the sense of 'logical subject' as characterized above. In this broad use, 'individual' is to be contrasted with 'particular', for particulars are, *roughly*, those individuals which are referred to by the singular terms which occur in observation statements.

² It is important to note that while we can form the expression 'white-thing' from the adjective 'white' and the category word 'thing' in accordance with the formula

(16) *S is a white-thing* = $\text{Df } S \text{ is a thing} \cdot S \text{ is white}$

it would be a serious mistake to suppose that all common nouns pertaining to physical objects are built from adjectives and the category word 'thing' in accordance with the formula

(17) *S is an N* = $\text{Df } (S \text{ is a thing}) \text{ and } S \text{ is } A_1 \dots A_n$

(where 'N' is a common noun and the 'A_i's adjectives). To suppose that 'thing' is the sole *primitive* common name is (a) to overlook the fact that the category word 'thing' has a use only because there are statements of the form 'S is an N'; (b) to expose oneself to all the classical puzzles about *substrata*. (This point is elaborated in my "Substance and Form in Aristotle: an Exploration", *Journal of Philosophy* liv (1957), pp. 688-699.) Reflection on the first of these points makes it clear, incidentally, that it is a mistake to view the category of substance or thinghood as a *summum genus*.

to their categorial counterparts

(14¹) *S is a member of K-kind*

and

(15¹) *S is a member of the class of f-things*

it is an *additional* step to introduce *classes* as extension of entities in terms of co-extensive classes. For it is simply not true that in non-technical contexts classes are identical if their memberships coincide.

To resume, just as the transition from (1) to (2) does not involve treating 'f' as a variable for which *singular terms* ('names of properties') are values, so, I wish to argue, the transition from 'S is a man' (3) to '(E_K) S is a K' (4) and from 'S is a white-thing' (1²) to

(18) (E f-thing) S is an f-thing

do not involve treating 'K' or 'f-thing' as variables for which *singular terms* ('names of kinds') are values.

Again, just as it is I believe clarifying to read '(Ex) x is white' as '*Something* is white', rather than 'There is an individual, x, such that x is white', and '(Ef) S is f' as 'S is something' rather than 'There is a property, f-ness, such that S has f-ness', so I believe it to be clarifying to read '(E_K) S is a K' (4) as

(4²) S is a *something*

rather than as 'There is a class, K-kind, such that S is a member of K-kind' (4²).

Finally, to mobilize the force of these considerations, note that the statement

(19) (E_K) :: (Ex)(Ey) x is a K · y is a K · x ≠ y ⊃ :: (z)
z is a K ⊃ : z = x ∨ z = y

does not say 'There is a class . . .', though what it *does* say can be put categorizingly by saying 'There is a *class* which has a *member* and another *member*, and all its *members* are identical with either of these'.

V

Similar considerations apply, *mutatis mutandis*, to the move from 'Tom is clever or Tom is tall' (5) to '(Ep) p or Tom is tall' (6). The variable 'p' is no more to be construed as taking singular terms for its values, than is 'f' or 'K'. On the other hand, the statement

(5¹) (The proposition) *that* Tom is clever is a disjunct of
(the proposition) *that* Tom is tall

is the categorial counterpart of (5) just as 'S has (the quality) whiteness' is the categorial counterpart of (1) 'S is white'. It will be convenient to use the expression 'that-p' as the variable which corresponds to 'p' as 'f-ness' to 'f', and 'K-kind' to 'K'. And to conclude the drawing of parallels, I believe it to be clarifying to read '(Ep) p or Tom is tall' (6) as

(6¹) *Something* or Tom is tall.

Note, by the way, that if, as it seems reasonable to suppose, 'that it is raining' is functioning as a singular term in

(20) Jones believes *that* it is raining,

the quantified statement corresponding to (20) as (6) corresponds to (5) would be *not*

(21) (Ep) Jones believes p

but rather

(21¹) (E that-p) Jones believes (the proposition) that-p.

But we shall have something more to say on this topic in our concluding remarks.

VI

Let us suppose, for the moment, that the above line of thought can be carried through and defended. And let us ask what light it throws on the idea that the 'existentially quantified' formulae of the logician are the counterparts of the statements in everyday discourse in which, to use Quine's phrase, we make ontological commitments, i.e. say that there are objects or entities of such and such kinds? Just this, that they are *not* the counterparts. Or, more precisely, that there is no *general* correspondence between *existentially quantified formulae* and *existence statements*. Only in those cases where the variable which is quantified is a variable of which the values are singular terms will a quantified formula be the counterpart of an existence statement. Nor is this all; not even all (so-called) existential quantification over singular term variables has the force of an existence statement. For the latter involve common nouns or expressions having the force of common nouns. Thus,

(22) There are tame tigers

involves the context

(23) x is a tame tiger.

Failure to see that common nouns or expressions having the force of common nouns are essentially involved in existence

statements is due, in part, to the mistaken idea that such a statement as 'S is white' (1), in which occurs the adjective 'white', differs only, so to speak, graphologically from 'S is a white thing' (1³), in which occurs the common noun expression 'white-thing'. For if this were so, then 'Something is white' would differ only graphologically from 'Something is a white thing' and we could use indifferently the formulae '(Ex) x is white' (7) and '(Ex) x is a white thing' (7⁴). It is important to see that it is just as incorrect to read '(Ex) x is white' as 'There is a thing which . . . ' as to read '(Ef) S is f' as 'There is a property . . . '. For unless one sees that not even quantification over singular term variables of type 0 makes, *as such*, an existence commitment involving an ontological category, i.e. says 'There are particulars', one is likely to think that 'There are particulars' is unavoidable in a way in which 'There are qualities' *might* not be. For while we can scarcely hope to dispense with quantification over variables of type 0, able philosophers have found it possible to hope that quantification over variables of higher types can (in principle) be dispensed with, or at least reduced to the status of a bookkeeping device for dealing with cash in which it does not appear.

We have already had something to say about the force of 'thing' in the noun expression 'white thing', and we shall have more to say about the category words 'individual' and 'particular' at the end of the argument. The point I am concerned to press at the moment, however, is that among the forms by the use of which one most clearly and explicitly asserts the existence of objects of a certain sort—I am not concerned with singular existence statements, which raise their own problems—are the forms 'There is an N', 'Something is an N' and 'There are Ns', and that the logistical counterpart of these forms is

$$(24) (Ei) i \text{ is an } N$$

where 'i' is a variable taking singular terms of a given type as its values, and 'N' is an appropriate common noun.

We can sum this up by saying that only where the so-called 'existential quantification' is a quantification over a context of the form 'i is an N' is a quantified statement the counterpart of a statement asserting the existence of objects of a certain sort—and this, after all, is analytic.¹

Put this positively, the thesis seems to ring true. If, however,

¹ It follows that the phrase 'existential quantification' should be dropped and replaced by (rather than abbreviated into) one of its logistical equivalents, e.g. Σ -quantification.

we make the same point negatively, by saying that to quantify over an adjective-, common noun- or sentence variable is not to make the PMese equivalent of a statement asserting the existence of attributes, kinds or propositions, it becomes clear that we have much more work to do. For, to take but the case of quantification over an adjective variable, our claim that it is illuminating to parallel the reading of '(Ex) x is white' (7) as '*Something* is white' (7^a), by a reading of '(Ef) S is f' (2) as '*S is something*' (2^a) stand in urgent need of expansion and clarification.

Perhaps the best way of accomplishing this is by examining the constructive views advanced in Peter Geach's contribution to the Aristotelian Society symposium¹ on "What there is" which takes its point of departure from Quine's provoking essay of this name. Geach sees that Quine's account won't do. He sees, to put the matter in terms of our examples, that the statement 'S is white' (1) entails the general statement

(2^a) There is something which S is

(i.e. white) and insists, correctly, that the latter is not to be confused with

(2⁷) There is something which S has

(i.e. whiteness). To take another example, he sees that

(25) Jack and Jill are both tall

entails the general statement

(26) There is something which Jack and Jill both are

and that the latter statement is not to be confused with

(26¹) There is something which Jack and Jill have in common.

It would be incorrect to attach the rider 'i.e. tallness' to the former. The proper rider would be 'i.e. tall', thus

(26²) There is something (i.e. tall) which Jack and Jill both are.

Now Geach's '*There is something* which S is' corresponds to our 'S is *something*'. And his insistence that the something which S is is *white* and not *whiteness* corresponds to our distinction between 'S is something' and 'S has (i.e. exemplifies) something'. Thus, in the terms of our analysis, Geach's '*There is something* which S is' (2^a) is the counterpart of '(Ef) S is f' (2) and he has correctly seen that the latter does not involve a commitment to the use of such abstract singular terms as 'whiteness' or 'tallness'.

¹ Supplementary volume xxv (1951).

But while he is on the right track up to this point, he builds the above insight into a larger mistake. For he is misled by his own formulation into supposing that

(26²) *There is something* (i.e. tall) which both Jack and Jill are although it does not commit us to the 'abstract or universal entity' *tallness*, does commit us to the 'property' *tall*. Thus he tells us that while the predicate 'red' is not to be construed as a *name*, it does "stand for" something, and he proposes 'property' as a "general term for what predicates stand for". He continues "This way of speaking [saying that what a predicate stands for is a property] has its dangers, but can be given a harmless interpretation; 'property' may here be taken to be just short for 'something that an object is or is not'".¹ Now Geach's *properties* are essentially the same sort of thing as Frege's *concepts*. Indeed, it is clear from other statements of his that Geach would have used Frege's term were it not for its conceptualistic connotations. I shall shortly be discussing a difficulty which is present in Frege's account of concepts. It will, however, be convenient to lay the groundwork by exploring what Geach has to say about properties.

Now it is important to realize that Geach gives *two* accounts of the term 'property'; one of which, though cautious, is based on a simple grammatical mistake, while the other is derived from Frege's account, and is more difficult to expose. The cautious account is contained in the passage quoted above, in which he stipulates that 'property' is to be equivalent to 'something that an object is or is not'. The Fregean account is the one in which properties are introduced as *what predicates stand for*. We shall return at a later stage in the argument to the dangers involved in the idea that predicates stand for properties. Our present concern is with the force of the statement 'There is something which Jack and Jill both *are*' (26).

Let me begin by noting that in our illustration, 'There is something which Jack and Jill both *are*' (26) was a generalization from 'Jack and Jill are both tall' (25). Now to move from the latter to

(27) Jack and Jill are both *something*²

is to avoid at least the appearance of an existence statement.

¹ *Op. cit.*, p. 133.

² Clearly the reading of '(Ef) S is f' as 'S is something' would require the use of indices to draw distinctions which become relevant when it is a question of reading such statements as (27). For if Jack were tall and Jill were short, it would follow that Jack and Jill were both *something*, though they would not be 'the same something'.

For the hypothesis with which we are working is that only those 'something-' statements which are of the form 'Something is an N', where 'N' is a common noun, have the force of existence statement—thus of the statement 'There are Ns'. But Geach's formulation, beginning, as it does, with 'There is . . .', though it is equally legitimate and equally involves no commitment to abstract singular terms, has the *prima facie* appearance of an existence statement. And, I am sorry to say, Geach has been taken in by it. And if the entities he introduces are what things *are* rather than what they *exemplify*, they are abstract entities, none the less, as Quine has noted in his reply,¹ and Geach's denial that these entities are *individually* referred to by such *singular terms* as 'Tallness' is open, as we shall see, to the reply that he has avoided the abstract individual *tallness* only at the expense of treating the adjective 'tall' as a peculiar kind of singular term, and hence introducing the abstract individual *tall*.

The key point to notice is that unlike existence statements proper, the statement

(26) *There is something* which Jack and Jill both *are*

begins not with "There is a . . .", not with "There is a *something* . . .", but simply with "There is something . . .". If it began with "There is a something . . .", thus using 'something' as a common noun, one might well look for a common noun, such as 'property', to pinpoint just what *sort* of 'something' 'there is' which Jack and Jill both are. We could then have

(26^a) There is a property which Jack and Jill both *are*.

But all this, as by now should be obvious, is logical nonsense. 'Something' is *not* a common noun, and it is incorrect, therefore, to introduce 'property' as equivalent to 'something which an object is or is not'. The term 'property' has, as a common noun, the form '— is a property' whereas, *unless* 'something' is to be construed as a common noun, the supposed equivalent has the form '— is something which an object is or is not', thus

(28) Tall is something which an object is or is not

and *not* '— is a something which an object is or is not'. Only if the expression 'something which an object is or is not' were a common noun expression (which it is not) would it be correct to introduce the common noun 'property' as its stipulated equivalent. In short, *this* way of introducing the term 'property' is simply a mistake.

¹ *Op. cit.*, pp. 149 ff.

VII

It is important to remember that I have not criticized Geach's claim that there is something which Jack and Jill both *are*. It is to what he proceeds to *make* of this claim that I took exception. I want now to examine this claim in closer detail, for I think that once we get the hang of Geach's formulation we will be less tempted to make his mistake.

Suppose we had begun with an example which involved the common noun 'man', instead of the adjective 'tall', say

(29) Tom is a man.

The corresponding generalization, as we have represented it, would be,

(30) Tom is a *something*

where the fact that the 'something' comes after the indefinite article makes it clear that 'something' is, so to speak, quantifying over a common noun variable.

How would we express this generalization in the manner of Geach? Certainly we can say

(30¹) There is something which Tom is

But this doesn't distinguish the result of generalizing from (29) on the one hand, and from

(31) Tom is tall

on the other. While to say 'There is a something which Tom is' is to court disaster. The answer suggests itself when we note that the "There is something which . . ." manner of expressing quantification rests on a rhetorical device which I shall call 'question-echoing counterparts'. The point is simply that such a statement as

(10) S is triangular

can serve as the answer to either of the following questions,

(32) *What* is triangular?

and

(33) S is *what*?

Now to the original statement there correspond the following pair of question-echoing counterparts,

(10¹) S is what is triangular: *Triangular* is what S is.

It is important to note that although the adjective 'triangular' is serving as the *grammatical* subject of the second of these state-

ments, the 'rôle' it is playing is a unique one, and is, indeed, *rhetorical* in character. It would surely be a howler to suppose that because it is functioning in this context as a grammatical subject, it is in any more profound sense functioning as a subject. *Its rôle is rhetorically derivative from its adjectival rôle in the original, or non-question-echoing statement.* Other examples of question echoing counterparts would be 'Tom is who is a man': 'A man is what Tom is' and 'Tall is what Jack and Jill both are': 'It is Jack and Jill who are both tall.'

Now the question-word 'what?' plays a number of rôles in English which might well be split up among a number of interrogatives. In particular, we might introduce the interrogative 'quale?' to indicate that the answer is to be in terms of an adjective, and the interrogative 'quid?' to indicate that the answer is to be in terms of a common noun. Then we would have the question-echoing counterparts

(31¹) *Tall is quale* Tom is: *Tom is who* is tall,

(29²) *A man is quid* Tom is: *Tom is who* is a man.

To the first of each of these pairs there would correspond a general statement which would bear the mark of its origin, thus,

(34) *There is something which is quale* Tom is (i.e. tall).

(35) *There is something which is quid* Tom is (i.e. a man)

or, more concisely,

(34¹) *There is somequale* which Tom is (i.e. tall).

(35¹) *There is somequid* which Tom is (i.e. a man).

VIII

I pointed out above that Geach gives two accounts of how the general term 'property' might be introduced. Of these two accounts we have so far considered only one—the 'cautious' one, we have called it—and found it to be a mistake. The second account, as we noted, derives from Frege, and our discussion of it will be usefully prepared by a theme from Frege's "On Concept and Object."¹

It will be remembered that Frege distinguishes between *concepts* and *objects* and is faced by the problem 'How can one say of anything that it is a concept?' For the term 'concept'

¹ First published in the *Vierteljahrsschrift fuer Wissenschaftliche Philosophie* xvi (1892), pp. 192-205; translated by Peter Geach and published in *Translations from the Philosophical Writings of Gottlob Frege* by Peter Geach and Max Black (New York, Philosophical Library, 1952).

being, presumably, a common noun, we should be able to make statements of the form

(36) — is a concept.

Frege, however, proceeds to rule out such statements as

(37) The concept *square root of four* is a concept

on the ground that the expression 'the concept *square root of four*', being a singular term, refers to an *object* rather than a concept. The same objection would, presumably, hold against

(38) The concept *man* is a concept

and

(39) The concept *triangular* is a concept

and, even more obviously, against

(38¹) Man-kind is a concept

and

(39¹) Triangularity is a concept.

Since, presumably, *something* can fill the blank in '— is a concept', we seem to be left with

(38¹) *Man* is a concept

and

(39²) *Triangular* is a concept.

These sentences, however, are puzzling, to say the least, for it is difficult to repress the feeling that since 'concept' is a common noun, the context '— is a concept' requires a singular term rather than an adjective or a common noun to complete it.

Now our discussion of Geach has made it clear that we *can* form sentences in which something other than a singular term is the grammatical subject. Consider, for example,

(40) *Triangular* is what (quale) the table is

and

(41) *Men* is what (quid) Tom and Dick are

Or, as we can also put it,

(40¹) *Triangular* is something which the table is

(41¹) *Men* is something which Tom and Dick are

But, as we emphasized at that time, there is nothing in these contexts which authorizes the introduction of a common noun, whether 'concept' or 'property'. There is, however, another context which tempts one to introduce such a common noun, namely,

(42) — is what 'triangular' stands for

(43) — is what 'man' stands for.

For, one is tempted to expostulate with Geach, surely adjectives and common nouns *stand for something*—though, of course, they are not *names*. Surely we can say

(44) 'Triangular' stands for something

or

(44¹) There is something which 'triangular' stands for.

And can we not therefore legitimately introduce the common noun 'concept' as having the force of 'something which a predicate stands for'? The answer is, as before, No; not however, because it is incorrect to say that there is something which 'triangular' stands for (or *bedeutet*), but because the expression 'something which a predicate stands for' like the expression 'something which an object is or is not' does not play the sort of rôle which would make it proper to introduce a common noun as its stipulated equivalent. This time, however, the matter is not quite so simple, for there is a related line of thought which does seem to authorize without grammatical absurdity the introduction of a common noun having the force of Frege's 'concept' or Geach's 'property'. This line of thought rests on the idea that 'means'¹—which I shall now use in place of 'stands for' because its simpler grammatical form will make the point more intuitive—has at least the appearance of being a *transitive verb*. That this appearance is misleading will be the burden of a subsequent stage in my argument. But accepting, for the moment, this appearance at its face value, and taking as our starting point, without comment, the sentence

(45) 'Triangular' means triangular,

the following moves all seem in good order; first to

(45¹) Triangular is meant by 'triangular'

then, on the analogy of the move from 'x is victimized by y' to 'x is the victim of y', to

(45²) Triangular is the meaning of 'triangular',

which involves the common noun 'meaning'. It is then a simple

¹ There is a family of semantical concepts each of which might be (and has been) conceived of as a 'mode of meaning'. Thus we might say that in our language 'triangular' *connotes* triangularity, *denotes*, triangular things, and *denotes*, the class of triangular things. Each of these is a legitimate concept and a proper subject for logical investigation. But none of them, obviously, is what Geach has in mind when he speaks of 'triangular' as *standing for* something. The sense of 'meaning' which I have in mind is that in which it is an *informative* statement for us to say that 'dreieckig' (in German) means *triangular*, whereas "'triangular' (in our language) means *triangular*" is as 'trifling' as "White horses are white".

step to stipulate that 'concept', 'property', 'nature' and 'form' are to be general terms for the meanings of adjectives and common nouns.

I shall be subjecting this line of thought to a severe critique in a moment. For the time being, however, I shall simply postulate that this mode of introducing such sentences as 'Triangular is a meaning', 'Triangular is a concept' and 'Triangular is a property' is in some sense misguided. For I want to go on to the question, Would this mean that Frege's notion of a concept is misguided? The answer is No rather than Yes. Frege did have something important in mind which he builds into his notion of a concept, and which does not require the use of adjectives, common nouns or verbs as the grammatical subjects of sentences. For the significant core of Frege's doctrine is compatible with the idea that the common noun context '— is a concept' requires *something like* a singular term for its subject, and hence with the rejection of a simple concept-object dichotomy. The clue to the correct formulation of this core theme is found in his characterization of concepts as 'unsaturated' (*ungesaettigte*). For, in effect, this means that we may be able to get somewhere with 'unsaturated' singular terms—if we can find such—as the subject of statements of the form "— is a concept". And once we have hit upon this suggestion, the next move follows of itself. For among the singular terms available to us from the previous discussion are singular terms of the form 'that-p', and we know what an 'unsaturated' singular term of this form would look like. In short, we hit upon, for example,

(39²) *That x is triangular* is a concept.

On this analysis, concepts would be 'unsaturated' propositions. And if, as Frege seems to do, we use the term 'object' in such a manner that anything referred to by a singular term is an object, we would have to say that concepts differ from objects not by being *non-objects*, but by being 'unsaturated' or 'incomplete' objects. Thus, when Frege says that to "assert something about a concept . . . it must first be converted into an object, or, speaking more precisely, represented by an object" (p. 46), his thought was undoubtedly guided by the fact that (39²) comes as close as it does to having the *adjective* 'triangular' as its subject, by having the *unsaturated singular term* 'that x is triangular' as its subject instead.

Now if the above line of thought is sound, we would no longer be precluded from saying that triangularity is a concept (39¹) by the fact that 'triangularity' is a singular term. The fundamental

difference between 'triangularity' and 'that *x* is triangular' would be that the latter makes explicit a *gappiness* or *incompleteness* which is perhaps implicit in the former. Indeed, it is tempting to suppose that the abstract singular term 'triangularity' simply has the force of the unsaturated singular term 'that *x* is triangular'. We shall subsequently see that this is not the case, but if we permit ourselves this supposition for the moment, then we would interpret the statement 'Triangularity is a quality' (11) as, so to speak, a rewriting of

(11¹) *That x is triangular is a quality*

and, consequently, regard a *quality* as a specific form of *concept*, the latter being a more inclusive notion, including as it does *multiply* as well as *singly* unsaturated propositions, and a variety of each.

Now it must be admitted that the idea that there are abstract entities such as triangularity, mankind, etc., takes a most interesting, if disturbing, turn if these entities are to be equated with gappy or unsaturated propositions. The notion of a *gappy* entity is a puzzling one, even if it is softened into the idea of an *incomplete* entity. On the other hand, it appears to illuminate contrasting historical positions. For if one accepts the idea that 'Triangularity' is simply, so to speak, a rewriting of 'That *x* is triangular', one is tempted to say that the difference between the Platonic and the Aristotelian conceptions of universals is that Plato takes the abstract singular term 'triangularity' to be a name which conceals no gaps, whereas Aristotle, by denying the apartness of the universal, is, in effect, recognizing the unsaturated, incomplete or gappy status which is made explicit by the unsaturated abstract singular term 'that *x* is triangular'. There is, I believe, some truth to this suggestion—though I do not think that it does justice to the radical character of Aristotle's rejection of Plato's Ideas. But that is a story for another occasion.

IX

Let us suppose, for the time being, then, that the abstract singular term 'triangularity' simply has the force of 'that *x* is triangular'. Then in addition to its intrinsic interest, the above discussion has shown us a way of saying something about triangularity without using the singular term 'triangularity'. Thus, instead of saying

(46) Triangularity implies having three sides

we can say

(46¹) *That anything is triangular implies that it has three sides.*

The latter preserves—indeed, highlights—the adjectival role of ‘triangular’.

No sooner have we said this, however, than we see how little we have said, if our aim is to avoid Platonistic anxieties. For if we put aside the complications introduced by the *generality* of (46¹) and turn our attention, instead, to

(47) *That S is triangular implies that S has three sides*

it becomes manifest that we have avoided the singular term ‘triangularity’ only to embrace the singular term ‘that S is triangular’, and that we have escaped *universals* only to accept *propositions*.

Actually, however, this new turn of events has brought us to the very heart of the matter. Statement (47) is, indeed, of the form

(48) *that-p implies that-q*

and does involve two singular terms. *But not all logical connectives play a predicate role*, and while those which *do* connect *singular terms* of the form ‘that-p’, those which *do not* connect *statements* and statement expressions, and statements are *not* singular terms, having, as they do, the form ‘p’ rather than ‘that-p’. Both predicative and non-predicative connectives have their legitimate place in the grammar of our language, but unless these places are carefully distinguished and correctly understood, philosophical perplexities of the most pervasive sort will be endemic.

The story is, in essence, a familiar one. Truth-functional connectives do not require that the connected expressions function as singular terms. Thus, as we saw above, while ‘Tom is clever or Tom is tall’ (5) and ‘(Ep) p or Tom is tall’ (6) have *categorical counterparts* which are built around the singular terms ‘that Tom is clever’, ‘that Tom is tall’ and the singular term variable ‘that-p’, neither (5) nor (6) itself contains any other singular term than ‘Tom’.

Can we, then, say what is said by ‘*That S is triangular implies that S has three sides*’ (47) and ‘*That anything is triangular implies that it has three sides*’ (46¹) without committing ourselves to singular terms formed from statements? Surely it will be said, all we need to do is to make use of the familiar symbol ‘ \supset ’ which was specifically designed to be the *non-predicative core* of the predicative term ‘implies’. We would then have

(47¹) *S is triangular \supset S has three sides*

and

(46²) *(x) x is triangular \supset x has three sides*

and if this move is successful, we should have freed ourselves

(temporarily, at least) not only from expressions of the form 'that-p', but also, unless we find other reasons for re-introducing them, from unsaturated singular terms of the forms 'that x is f' and 'that x is a K'; and hence from 'f-ness' and 'K-kind'. We would indeed have extricated ourselves from Plato's beard.

X

It is well to pause for a moment to let the fact sink in that our argument has brought the problem of abstract entities face to face with the problem of *necessary connection*; and to note that it is but a short step to the problem of 'causal connection' or 'natural implication', and to the realization that 'causally implies' like 'logically implies' is a *predicative* connective and requires the use of abstract singular terms as in

(49) *That* it has just lightnined (causally) implies *that*
it will shortly thunder
and

(50) *That* x is released (causally) implies *that* x will fall.

XI

Even if we could take it as established that to quantify over adjective-common noun- and statement-variables is not to assert the existence of qualities, kinds or propositions, we would sooner or later have to face the fact that ordinary language does involve the use of the singular terms and the common nouns which raise the spectre of Platonism—and, indeed, that we do make the existence statements which the Platonist hails as the substance of his position. For we do make such statements as 'There is a quality (thus triangularity) which . . .', 'There is a class (thus, dog-kind—or the class of white things) which . . .', and 'There is a proposition (thus, *that* Caesar crossed the Rubicon) which . . .'. These statements, genuinely existential in character, make forthright ontological commitments. Or are these commitments, perhaps, less forthright than they seem? Can they, perhaps, be 'reduced' to statements which make no reference, explicit or implicit, to ontological categories?

We asked above "Is there any way of saying something about triangularity without actually using the abstract singular term 'triangularity'?" This question led us first to the idea of the *predicative* implication-statement 'That anything is triangular implies that it has three sides', which avoids 'triangularity' but

at the expense of using the unsaturated abstract singular term 'that x is triangular'. The effort to avoid even these abstract singular terms led us then to the notion of a general truth-functional statement to be represented as

(46²) $(x) x$ is triangular $\supset x$ has three sides.

Without questioning the soundness of this notion, I shall now ask instead, 'Is there any statement of which the subject is "f-ness" which cannot be reformulated as a statement in which "f-ness" is replaced by the sentential function " x is f " (N.B.: not 'that x is f ')?' To this question correspond a number of others of which two are more directly germane to our argument, namely, 'Is there any statement of which the subject is "K-kind" which cannot be reformulated as a statement in which "K-kind" is replaced by " x is a K" (not 'that x is a K')?' and 'Is there any statement of which the subject is "*that-p*" which cannot be reformulated as a statement in which "*that-p*" is replaced by " p "?' And to these questions the direct and simple answer is Yes. For neither

(51) f-ness is a quality

nor

(52) K-kind is a class

nor

(53) *That p* is a proposition

can be so reformulated.

But if these contexts (which we have called categorizing contexts) do not admit of the desired reformulation, and consequently revive our Platonistic anxieties, it is equally true that these anxieties can be at least temporarily stilled by a relatively simple and straightforward therapy. This relief is provided by pointing out that whereas the truth or falsity of statements to the effect that a physical object belongs to an empirical kind is ascertained by observing or inferring that it satisfies certain empirical criteria, the truth or falsity of such categorizing statements as

(11) Triangularity is a quality,

(54) Dog-kind is a class,

(55) *That Chicago is large* is a proposition,

is ascertained not by 'examining' triangularity, betweenness, dog-kind or *that Chicago is large*, but by reflecting on the rôle in discourse of the corresponding expressions. This is the insight contained in Carnap's contention (in *The Logical Syntax of Language*) that the above statements are in the 'material mode

of speech' and are the 'quasi-syntactical' counterparts (roughly—for I am following the general spirit, rather than the letter of Carnap's account) of

- (11²) 'Triangular' (N.B.: *not* 'triangularity') is an adjective (in English),¹
- (54¹) 'Dog' (N.B.: *not* 'dog-kind') is a common noun (in English),
- (55¹) 'Chicago is large' (N.B.: *not* 'that Chicago is large') is a sentence (in English).

But surely, it will be said, the word 'triangular' is just as abstract an entity as triangularity. Where is the 'nominalistic' gain? Is not the term "'triangular'" as much a singular term as 'triangularity', and 'adjective' as much a common noun as 'quality'? The answer is simple and straightforward. "'Triangular'" is not a singular term, but a common noun, and the gain arises in that we can hope to equate (11²) with *something* like

(11²) (x) x is a 'triangular' \supset x is an adjective

where "'triangular'" is a common noun referring to items playing a certain *linguistic* role, as 'bishop' is a common noun referring to items playing a certain *chess* role. "A 'triangular' is an adjective" would be the counterpart of "A bishop is a diagonal-mover".

Unfortunately, no sooner is one relaxed by this therapy, and considering the possibility of extending it to some other contexts in which 'abstract entities are acknowledged', than a number of more serious objections arise which threaten a relapse.

The first of these objections grants that *if* the only contexts involving such expressions as 'triangularity', 'betweenness', 'dog-kind', and 'that Chicago is large' which could not be reformulated in the object language without the use of abstract singular terms were *categorizing statements* such as (11), (54), and (55) above, or such other statements as might be capable of straightforward treatment under the more general notion of 'quasi-syntactical statements in the material mode of speech', *then* the Carnapian therapy—vintage 1932—would be successful.

¹ This Carnapian interpretation of categorizing statements would carry with it a reinterpretation of the categorial counterparts of such statements as (1). Thus, 'S exemplifies f-ness' would be the equivalent in the material mode, a *quasi-semantic* equivalent of "'f' is true of S". The relation of the latter to "'S is f' is true" would remain to be explored. Again, 'S is a member of K-kind' would be the quasi-semantic equivalent of "'K' is true of S". The latter, however, would seem to be as closely related to "S satisfies the criteria of 'K'" as to "'S is a K' is true".

After granting this, however, it proceeds to argue that there are contexts in which abstract singular terms occur, which neither can be reformulated in the object language, to avoid them, nor respond to this syntactical treatment. Consequently, it continues, there are reasons which cannot be dispelled by any therapy yet mentioned for thinking that we are committed to the straightforward existence of qualities, relations, kinds, propositions, etc. And if, it concludes, by way of counter attack, there are such entities, then even the idea that such a categorizing statement as

(11) Triangularity is a quality

is *really* about the adjective 'triangular' instead of, as it purports to be, about triangularity, must be simply a mistake.

XII

Now the task of examining all contexts in which abstract singular terms occur to see if they admit of an interpretation free of Platonistic implications, is an intricate and demanding one which, even if I were prepared to undertake it, would require a larger canvas than is at hand. I shall therefore limit myself to a few manageable points which, as I see it, lay the groundwork for a successful use of a therapy essentially the same as the one proposed by Carnap (but which, of course, has a much longer—and indeed, venerable—history).

The first point I wish to make arises from the fact that if we press the above critic to specify the contexts he has in mind, the chances are that he will come up with examples from discourse in which we are either explaining what a word means or characterizing the thoughts and beliefs of intelligent beings.

It goes without saying that one of the oldest and strongest roots of conceptual realism is the conviction that we cannot make sense of thinking in its various modes unless we interpret it as involving something like an 'intellectual perception' of abstract entities. Thus the road we are travelling leads sooner or later to the problem of problems, the Mind-Body problem, the Gordian knot which has been cut so often, but never untied. I do not propose to untie it on this occasion. I shall therefore turn my attention to discourse about the meanings of words to see if it involves a commitment to abstract entities.

Let us consider, therefore, such a context as the following:

(56) 'Dreieckig' (in German) means

And let us ask what we should place at the end of this context to make a well formed sentence. A number of answers suggest

themselves, of which the first, and most obviously *unsatisfactory*, is that what we should place there is the quoted expression "‘triangular’". This clearly won't do, at least as it stands, for the simple reason that if we were looking for the *beginning* of a sentence which has as its ending

(57) . . . (in German) means 'triangular'

we would find the answer—assuming that Germans form the names of expressions, as we do, by means of the quoting device—in

(58) "‘Triangular’" (in German) means 'triangular'.

Now we might try to put this informally by saying that the German word 'dreieckig' means a *quality* and not a *word*, and that if any German expression means the *word* 'triangular' it is the German expression "‘triangular’". But so to put the matter raises more puzzles than it resolves, for when we say that the German word 'dreieckig' means a *quality*, we imply that the proper way to complete the original context, (56), is by the use of the abstract singular term 'triangularity', which would give us

(59) 'Dreieckig' (in German) means (the quality) triangularity, and a moment's reflection tells us that this won't do at all. For surely the German word which means triangularity is 'Dreieckigkeit' and not 'dreieckig', thus

(60) 'Dreieckigkeit' (in German) means triangularity.¹

Now the source of our trouble is that we have been taking for granted that what belongs in the place of the dots in (56) is a singular term. But, then, it will be said, is not 'means' a transitive verb? and does it not, therefore, require to be followed by an expression which refers to an *object*, as do the concluding expressions in

(61) Tom hit *Harry*,

(62) Tom hit *a man*,

(63) Tom hit *the man next door*.

It is this reasoning which confronts us with our dilemma, for if the context takes a singular term, and if, as we have seen, it doesn't take 'triangularity', what else is there for it to take but "‘triangular’". We must apparently choose between

(64) 'Dreieckig' (in German) means 'triangular'

which is false, and,

(65) 'Dreieckig' (in German) means triangular

¹ See footnote 1, p. 501.

which because it uses the adjective 'triangular' rather than a singular term is, apparently, ill-formed.

Now the way out of this labyrinth consists in recognizing that it is incorrect to say that 'dreieckig' means a *word*, and equally incorrect to say that it means a *non-word*, for the simple reason that 'means' is not a *transitive* verb. Not that it is an *intransitive* verb, for it is neither, and the attempt to fit it under one or the other of these headings, on the supposition that they are not only mutually exclusive but jointly exhaustive, is the cause of the puzzle.

Once this point has been made, however, it can be granted that even though

(64) 'Dreieckig' (in German) means 'triangular'

is false, there is a sense in which the *true* statement

(65) 'Dreieckig' (in German) means *triangular*

is about the English word 'triangular'. For by making statements of this form we bring people to understand the German word 'dreieckig', for example, by leading them to reflect on their use of its English counterpart. It is because the understanding of (53) involves an imaginative rehearsal of the *use* of 'triangular' that (53) differs from a simple statement to the effect that 'dreieckig' is the German counterpart of the English word 'triangular'. The latter statement could be *fully* understood, as the former could not, by someone who did not have the English word 'triangular' in his active vocabulary.

Now the prime result of all this logic chopping is that the context

(66) '—' (in L) means . . .

does *not* require a singular term to fill the right hand blank. Thus, to use other relevant examples,

(67) 'Homme' (in French) means *man* [not *mankind*]

and

(68) 'Paris est belle' (in French) means *Paris is beautiful*
[not that *Paris is beautiful*].

It follows that the existentially quantified counterparts of (65), (67), and (68) are

(69) (Ef) 'dreieckig' (in German) means *f*,

(70) (EK) 'Homme' (in French) means *K*,

(71) (Ep) 'Paris est belle' (in French) means *p*,

and that it would be as incorrect to read these as 'There is a

quality . . .', 'There is a class . . .' and 'There is a property. . .', as we found it to be to make the corresponding readings in the case of (2), (4) and (6).

We are now in a position to grant that we do speak of the 'meaning' of a word while insisting that the common noun 'meaning' (or its sophisticated counterparts, 'concept' (Frege) and 'property' (Geach))—far from embodying a fundamental logical category—arises from contexts of the form "'—' means . . .'" (66), by treating 'means' as of a piece with ordinary transitive verbs. Thus, by analogy, we have

(65¹) *Triangular* is meant (in German) by 'dreieckig',

(65²) *Triangular* is what 'dreieckig' (in German) means,

(69¹) There is something (i.e. *triangular*) which 'dreieckig' (in German) means

and while none of these involves a commitment to a common noun expression having the force of 'meaning', the fact that one of the principles of linguistic development is *analogy*, easily generates the common noun 'meaning' and permits us to say

(65³) *Triangular* is the meaning of 'dreieckig' (in German)

and to make the statement properly existential in form,

(69²) There is a meaning which 'dreieckig' (in German) means or, with Geach,

(69³) There is a *property* which 'dreieckig' (in German) stands for.

In other words, while it would be incorrect simply to say that there are no such things as meanings, or Frege's concepts, or Geach's properties, to trace the common noun 'meaning' to its source in the translation rubric "'—' (in L) means . . .'" (66) is to make what amounts to this point in a less misleading and dogmatic way.

The upshot of the foregoing discussion of meaning with respect to the primary theme of this article can be summed up by saying that the translation context (66), does not properly take a singular term on the right hand side unless the expression of L which is placed in the single quotes of the left hand side is itself a singular term. In other words, this context does not of itself *originate* a commitment to abstract entities.

This point might be obscured by a failure, where the quoted expression of L is a sentence, to distinguish between the context

(72) '—' (in L) means p

and the context

(73) X—by uttering ' . . . ' (in L)—asserts *that-p*

where X is a person. The former context abstracts from the many specific ways in which the English sentence represented by 'p' and the corresponding sentence of L function in discourse. That the context

(74) X asserts *that-p*

unlike context (72) above does involve the use of the abstract singular term 'that-p' is a point to which we shall return at the close of the argument.

XIII

Perhaps the most interesting consequence of the above analysis is the fact that it frees the 'semantical definition of truth' from the commitment to propositions which it has often been taken to involve. Thus, the definiens of Carnap's definition of 'true sentence of L' developed on pages 49 ff. of his *Introduction to Semantics*, namely,

(75) S is a true sentence of L =_{DI} (Ep) S designates p (in L) · p is incorrectly read as 'there is a proposition, p, such that S designates p (in L) and p'. It can readily be seen that this reading exhibits inconsistencies which are the counterpart of those explored in the opening section of this paper in connection with the 'informal reading' of '(Ef) S is f' as 'there is an f such that S is f'. Thus, whereas 'S designates p' requires that 'p' be a sentential variable and not a singular term variable, the context 'there is a proposition, p, . . . ' requires that 'p' be a singular term variable of the form 'that-p'. And if we revise the definition to avoid the inconsistency by taking 'S' to be the name of a that-clause (in L) rather than the name of a sentence, thus obtaining

(76) S is a true that-clause (in L) =_{DI} There is a proposition, that-p, such that S designates *that-p* (in L) and that-p

we see at once that we have an ill-formed expression on our hands, for the concluding conjunct 'p' of the original definiens has been turned into the *singular term* variable 'that-p', and to patch *this* up we must turn 'and that-p' into 'and that-p is the case', where 'that-p is the case' is the categorized counterpart of 'p', as 'S has f-ness' is of 'S is f'.

The 'propositional' reading of Carnap's definition becomes, under the pressure of the demand for consistency,

- (77) T is a true that-clause (in L) \Rightarrow_{Df} there is a proposition, that-p, such that T designates *that-p* (in L) and that-p is the case.

and while I do not wish to impugn the consistency of the notion, thus introduced, of the truth of a that-clause, I do wish to insist that this notion is philosophically unsound in so far as it *rests on* the mistaken idea that the truth must be defined in terms of propositions, and *leads to* the mistaken idea that the truth of *statements* is derivative from that of *that-clauses*.

XIV

Our success in showing that the context "' — ' (in L) means . . ." does not *originate* a commitment to the use of abstract singular terms (though it accepts them with grace if they are already in use) raises the hope that *all* other uses of abstract singular terms stem from their use in 'quasi-syntactical statements in the material mode of speech'. In other words, the hope is revived that what we have called the syntactical therapy will work. If, however, as a result of this optimism we take a closer look at this therapy, we find that it is not without its own difficulties. Indeed, it is apparently open to a simple and devastating objection. How can 'Triangularity is a quality' (11) have something like the force of "' Triangular' (in English) is an adjective" (11²) in view of the fact that (11) *makes no reference to the English language*? The objection is no mere question begging, for it presents an argument to prove that (11) makes no reference to the English language in general nor to the English word 'triangular' in particular. It points out that the German translation of (11) is

(11g) Dreieckigkeit ist eine qualitaet

and argues that there is just as much reason to say that (11g) is about the German word 'dreieckig' as to say that (11) is about the English word 'triangular'. Since (11g) presumably makes the same statement as its English counterpart (11), the objection concludes that neither of these statements is about either word.

Again, how can the truth of (11) be ascertained by reflecting on the use of the word 'triangular' if, were a German to say

(78) Dreieckigkeit ist eine qualitaet, aber es gibt keine Englische Sprache,

his colleagues would recognize that his statement was only

contingently false? For if his statement is only contingently false, it might have been true, and if it had been true, he could have made a true statement, namely (11g) above even though there was no English language in general, nor, in particular, such an English word as 'triangular'. And if there is only a contingent connection between the truth of (11g) and the existence of the English language, how *could* we English users ascertain the truth of (11) simply by reflecting on the syntax of the English word 'triangular'?

The answer to this puzzle involves two steps, the first of which we have already taken, for it consists in reminding ourselves that

- (79) 'Dreieckigkeit ist eine qualitaet' (in German) means
triangularity is a quality

does not involve the singular term 'that triangularity is a quality'. Consequently, the fact that (11g) 'has the meaning it does' does not commit us to the existence of a non-linguistic abstract entity (a proposition) of which (11g) is the German name; nor, *a fortiori*, does the fact that (11) and (11g) 'have the same meaning' commit us to the existence of a non-linguistic abstract entity which stands over and against both languages and has a name in each. That there is a *linguistic* abstract entity, a rôle which is played in German by one group of vocables and in English by another and of which 'that triangularity is a quality' is the English name is indeed the case. It has been pointed out above, however, that statements about linguistic rôles are reducible to statements involving no abstract singular terms.

Now if we take seriously the fact that the *inter-translatability* of (11) and (11g), their existence as *counterparts* of one another in the two languages, does not involve the existence of a proposition which they both name, we are in a position to approach the question 'By virtue of what are these two sentences counterparts?' without being tangled *ab initio* in a commitment to Platonic entities. In other words, we can look for a rôle which (11) might play in English and for a rôle which (11g) might play in German which would make (11) and (11g) *counterparts* and appropriately *inter-translatable*, unhampered by the mistaken idea that two inter-translatable expressions must be different names of one entity.

And once we undertake this unhampered search, the result is surely a foregone conclusion. Thus the second step consists in noting that while

- (80) Triangularity is a quality, but 'triangular' is not
an adjective in the language I speak

is not in any simple sense self-contradictory, as is shown by the fact that *one* of its German counterparts,

- (80g) Dreieckigkeit ist eine qualitaet aber 'triangular'
ist nicht ein Adjectiv in seine (Sellars') Sprache

is only contingently false, it is nevertheless 'logically odd' in a way which requires its falsity. Notice that not only (83g) but both

- (80¹) Triangularity is a quality, but 'triangular' was
not an adjective in the language I spoke yesterday
and

- (80²) Triangularity is a quality, but 'triangular' will
not be an adjective in the language I will speak
tomorrow

are *contingently* false. The logical oddity of (80) consequently hinges on the fact that I cannot—and *this* is a matter of strict logic—simultaneously make understanding use of 'triangularity is a quality' while understandingly denying that 'triangular' is an adjective. And the reason for this is simply that to know how to use singular terms ending in '-ity' is to know that they are formed from adjectives; while to know how to use the common noun 'quality' is (roughly) to know that its well formed singular sentences are of the form '— is a quality' where the blank is appropriately filled by an abstract noun. (That the parallel points about '-keit' and 'qualitaet' in German are genuine parallels is clear.) Thus a more penetrating examination (80) shows it to be self-contradictory in spite of the fact that *one* of its German counterparts is not.

Thus, while my ability to use 'triangular' understandingly involves an ability to use sentences of the form '— is triangular' in reporting and describing matters of physical, extralinguistic fact, my ability to use 'triangularity' understandingly involves no new dimension of the reporting and describing of extralinguistic fact—no scrutiny of abstract entities—but constitutes, rather, my grasp of the adjectival role of 'triangular'.

Is this all there is to it? Is the story really so simple? Of course not. Philosophy moves along asymptotes, and to move along one, it must move along many. Progress is dialectical, and comes from raising and answering objections. This time the objection is that the above account makes unintelligible the plain fact that we have the *two* sentences 'Triangularity is a *quality*' (11) and "'Triangular' (in English) is an *adjective*'" (11²). Why should our "grasp of the adjectival role of 'triangular'" be

embodied in the former, when the latter does exactly this job in such a straightforward and successful way?

The answer to this question is best approached by noting an important difference between the two abstract singular-term expressions 'triangularity' and 'that *x* is triangular', which we have hitherto taken to have the same force. The existence of such a difference is made clear by the fact that there is something odd about the statement '*That x is triangular is a quality*' (11¹) and even odder about

(81) *That Socrates is a K is a particular.*

To begin with, it is, surely, *triangularity* which is the quality just as it is *Socrates* which is the particular. If so, a distinction is called for between '*Triangularity is a quality*' (11) and what we might represent as

(82) *That x is triangular is a particular-gappy proposition*
and, correspondingly, between

(83) *Socrates is a particular*

and

(84) *That Socrates is a K is a kind-gappy proposition.*

Thus, if we assume for the moment that *ontological* categories are the material mode of speech for *syntactical* categories, then the syntactical counterpart of '*Triangularity is a quality*' (11) would not be

(11²) '*x is triangular*' is a singular-term gappy attributive sentence

but simply '*'Triangular' (in English) is an adjective*' (11³) and the syntactical counterpart of '*Socrates is a particular*' (83) not

(84¹) '*Socrates is a K*' is a common-noun gappy classifying sentence

but simply

(83¹) '*Socrates*' is a singular term (of type 0).

The non-self-sufficiency, then, of universals and individuals is not a matter of gappiness, but rather a reflection of the fact that adjectives, common nouns and singular terms alike are what they are because of their different contribution to the statement-making rôle performed by the *sentence*.

It is often said that 'one place predicate' is a more penetrating syntactical concept than that of an adjective—even when the latter is expanded to include adjectival expressions as well as simple adjectives. And there is certainly an element of truth in

this contention which we might try to put by saying that 'one place predicate' makes explicit reference to the way in which adjectives are incomplete. But once we try to spell this out, we see that the point is not that 'adjective' obscures the fact that adjectives are incomplete—for it doesn't—but rather that it does not give us, so to speak, an intuitive picture of this incompleteness. Indeed, we are only half-way to this intuitive picture if we replace (11^a) by

(11^b) 'Triangular' (in English) is a one place predicate.

To get it we must say

(11^a) '— is triangular' (in English) is a singular-term-gappy-attributive sentence.

Consider, now, the statement

(82¹) *That — is triangular* is a particular-gappy state of affairs

(which is a candid reading of what might also be rendered by

(82²) *That x is triangular* is a propositional (N.B.: not sentential) function).

What can we make of it? Are we not tempted to think that (82¹) is simply a rewriting of (11^a)? For, we might argue, how *could* (82¹) be true if it were *not* a rewriting of (11^a)? Can it be a complete sentence if it *contains* a gap instead of *mentioning* it? And where can an appropriate gap be found i. not in the gappy sentence '— is triangular'?

Why, then, would we hesitate? What is there about the 'feel' of (82¹) which militates against the idea that it could be a rewriting of (11^a)? I think I can put my finger on it by calling attention to the fact that a foreigner who was learning English and had made substantial progress, but had not yet added the word 'triangular' to his vocabulary, could fully understand (11^a) whereas (82¹) cannot be fully understood unless one not only knows that 'triangular' is an English word, but actually has it in one's active vocabulary.

But if this is the source of our hesitation, we are in a position to answer our original question. For we have now located a difference between the 'material' and the 'formal' modes of speech which enables us to see how they can "have the same force" without one being a simple *rewriting* of the other. For while it would be incorrect to say that '*That — is triangular* is a particular-gappy state of affairs' (82¹) is a *mere* rewriting of "'— is triangular' (in English) is a singular-term-gappy

attributive sentence" (11⁶), it is at least a reasonable next step in the direction of the truth to interpret it as a rewriting which presupposes that 'writer' and 'reader' are able to use as well as *mention* sentences of the form '— is triangular'.

It should be noted, in this connection, that a similar point can be made about the difference between "'Dreieckig' (in German) means *triangular*" (65) and

- (65⁴) 'Dreieckig' (in German) is the counterpart of the English word 'triangular'.

For the former presupposes, as the latter does not, that the English-speaking person to whom it is addressed not only recognizes that 'triangular' is an English word, but enjoys its presence in his active vocabulary. It is, as we have seen, by leading those to whom it is addressed to rehearse in imagination the role of 'triangular' that (65) is an explanation of the German word 'dreieckig'. Thus (65) has essentially the force of "'dreieckig' (in German), plays the same rôle as 'triangular' in our language". The abstract singular term 'triangularity' can be construed as the English name of this rôle.

And this is the place to pick up a topic which was raised towards the end of our first bout with the rubric "'—' means . . ." only to be dropped like the hot potato it is. I there pointed out that the context "'—' (in L) means *p*" (72), where '—' is a sentence of L, must not be confused with 'X, by uttering '—' (in L), asserts *that-p*' (73). The latter *does*, whereas the former *does not*, involve the use of the singular term 'that-p'. What then are we to do about *this* apparent commitment to Platonic entities? The clue is contained in (73) itself. I am not however, suggesting that 'X asserts that-p' (74) is a simple *rewriting* of

- (85) X utters '—' (in L)

which won't do at all for the obvious reason that one can assert, for example, that it is raining without using any given language, L. Shall we, then, accept the equation.

- (86) X asserted that-*p* =_D There is a language, L, and a sentence S, such that S is a sentence of L and S (in L) means *p* and X, speaking L, uttered S?

This might be the *beginning* of an analysis, for our discussion of the material mode of speech has shown us that 'X asserts that-p' (74) might *mention* a sentence (in this case a sentence in an unspecified language) even though it does not appear to do so, and that 'that-p' can be construed as the name of a rôle which

is played in different languages by different vocables and in the unspecified language by unspecified vocables. On the other hand, that 86 can't be the *end* of the analysis is clear.

XV

I began by arguing that 'existential quantification over predicate or sentential variables' does not assert the existence of abstract entities. I then suggested that if the only contexts involving abstract singular terms of the forms 'f-ness', 'K-kind', and 'that-p' which could not be reformulated in terms of expressions of the forms 'x is f', 'x is a K', and 'p' were categorizing statements such as 'f-ness is a quality', 'K-kind is a class', 'p is a proposition', then we might well hope to relieve platonistic anxieties by the use of syntactical therapy. I then examined a context which has been thought to correlate words with extralinguistic abstract entities, namely the context "'—' (in L) means . . .'", and found that it does not do so. Encouraged by this, I proceeded to examine the distinction between the material and the formal modes of speech to see if the idea that such categorizing statements as 'Triangularity is a quality' have the force of syntactical statements such as "'triangular" is an adjective' can run the gauntlet of familiar objections, with what I believe to be hopeful results.

Yet if I stand off and scrutinize the argument, my enthusiasm cannot but be sobered by a consciousness of how much remains to be done before something like a nominalistic position is secure. For I cannot overlook the fact that two of the most puzzling contexts in which abstract singular terms occur have been noted only to be passed over in search of simpler game. I refer, of course, in the first place to *mentalistic* contexts such as

(87) Jones inferred *that* S is f

and, in the second, to such 'nomological' contexts as

(88) *That* it has just lightninged implies *that* it will shortly thunder.

Then there are such evaluative contexts as

(89) *That* he was late is better than *that* he not have come at all.

The task of clarifying the force of contexts such as these is as large as philosophy itself. And to this task the foregoing is but a prolegomenon.

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VI.—DISCUSSIONS

SINGULAR PROPOSITIONS, AND 'THIS' AS A QUANTIFIER

MR. J. L. MACKIE¹ has formulated a number of objections to the conception of singular propositions presented by T. Czeżowski.² The objections ran as follows:

(1) According to Czeżowski, singular propositions of the form 'This S is P' may not be substituted for universal propositions in, among others, the major premiss of the first and second figure moods.

While admitting the invalidity of the syllogism,

$$\begin{array}{rcl} (\text{Sm}_1) & \text{This M is P} & \\ & \text{All S are M} & \\ \hline & \therefore \text{All S are P} & \end{array}$$

he nevertheless is of the opinion that "the difficulty arises only from Czeżowski's own basic assumption that 'This' is something like a quantifier" (p. 522).

(2) The traditional view that singular propositions may be treated as universal (the Rule I, refuted by Czeżowski) applies, according to Mackie, rather to propositions employing names in their construction—such as 'Socrates'. Singulars of that kind can always be substituted for universals, in conformance with Rule I (p. 522), and the logical relations connecting those propositions are best exhibited in the traditional square of opposition (p. 526).

(3) Mackie declares that Czeżowski's Rule II (according to which singular propositions may, in view of some connections, be interpreted as universal, and in view of some others, as particular) is false, because in expressions of the form, 'This M is P', as conceived by Czeżowski, the term 'M' is not distributed, and therefore such propositions are not suited to being interpreted as universal (p. 522).

(4) In Mackie's opinion it was an error on Czeżowski's part, to treat 'This' as a quantifier. "'This' is not a quantifier, nor is it like a quantifier . . ." (p. 525), ". . . it stands for some specific manner of restriction to an individual; it is more like a determinant which adds some material content to the intension of the subject" (p. 525). In the proposition, 'This S is P', the term in the subject is not 'S', but the complete phrase, 'This S' (pp. 523, 525). Mackie tries to substantiate his view with the help of the following four arguments:

(4a) The propositions, 'All XS are P' and 'Some XS are P' enter relations of opposition quite analogous to those of 'This S is P'.

¹ MIND (October, 1958), vol. lxvii, no. 268, pp. 522-526.

² MIND (July, 1955), vol. lxiv, no. 255, pp. 392-395.

Therefore, 'This' is similar to the determinant 'X' of 'All XS are P' (p. 523).

(4b) It is possible to assemble a set of determinants which will make 'All XYZS' coincide with 'This S' (p. 524).

(4c) "'This S' can be a predicate, whereas the predicate cannot be quantified without disastrous consequences" (p. 525).

(4d) A valid syllogism,

(Sm ₂)	This M is P
	All S are this M
	∴ All S are P

has for its middle term 'This M'—contrary to Czeżowski's idea, according to which 'M' by itself could be the term.

In reply to the above objections and arguments, I take the liberty to propose some remarks, which are as follows:

Ad(1). The syllogism (Sm₁) is invalid irrespective of the interpretation given to the phrase 'This M'. Nor will it be saved by the adoption of Mackie's suggestion. The objection alleging the whole difficulty to originate from Czeżowski's own theory is therefore wrong.

The wording of the text at this point is such that it does not exclude the possibility that when speaking of difficulties Mackie may have meant, not the syllogism (Sm₁), but the prohibition of substituting singular propositions in certain premisses. If that is the case, then Mackie is right, for the restriction follows as a consequence of Czeżowski's assumptions. That, however, can in no manner constitute a case for objection, since the assumptions have not—as I shall presently try to demonstrate—been chosen without justification.

Ad(2). It is not true that logicians of the past have considered Rule I as applying only to singular propositions constructed with the use of proper names. As a rule no difference used to be made, in formal logic, between singular propositions of the form, 'Socrates is Greek', and those of the form, 'This man is Greek'. For examples of the confusion of those two kinds of propositions we can turn to some enunciations of J. N. Keynes,¹ to whom Czeżowski also referred in his paper.

In any case, with both the first and the second types of singular propositions, Rule I fails to be satisfactory. As soon as an attempt is made to treat the proposition as universal, it becomes evident that not only from 'This man is Greek', but from 'Socrates is Greek' as well, no negation of a negative particular proposition does follow—as one would expect, were singular propositions indeed universal. Moreover, the relation existing between the pair, 'Socrates is Greek'—'This man is Greek', is one of negation of equivalence (in

¹ J. N. Keynes, *Studies and Exercises in Formal Logic*, 4th ed., reprinted 1928, pp. 102, 103, 115, 116.

J. Łukasiewicz's¹ symbolic notation, which I am using here, this would be expressed as : NEpq), whereas that existing between two universals of opposed qualities, 'SaP' and 'SeP', is a relation of disjunction (Dpq). Hence, singulars whatever their form, must not be identified with universals.

Mackie is mistaken when he asserts that the logical relations of the proposition 'This S is P', interpreted in the manner suggested by him, are best exhibited in the traditional square. Singular propositions in which the entire phrase 'This S' is taken to stand for a term, are altogether unsuited to the ordinary square of opposition. It is hardly possible without transgressing the rules of syntax of ordinary speech, to construct propositions of the form, 'Some this S is P', 'Some this S is not P', 'No this S is P'—yet without them no inference from opposition could be made.

Perhaps when speaking of the suitability of the traditional logical square Mackie had in mind his own method of exhibiting the connections existing between 'This S is P' and categorical propositions. But if so, he is wrong to identify his diagram (iii) with the traditional square. The point is not which figure shall be chosen for the diagram. That may be a square, or it may be a hexagon. What matters is that in the classical doctrine of opposition, only four kinds of propositions were considered, whereas here a greater number of varieties are taken into account. Probably it was to bring out that difference that Czeżowski chose the hexagon.

Ad(3). Neither the negation of the proposition, 'Socrates is Roman', nor that of 'This man is Roman', yields a negative universal proposition. Moreover, the relation existing between 'SiP' and 'SoP' is that of alternation and not of negation of equivalence. Hence, not only is it impermissible to identify singulars with universals, but also the two must not be identified with particulars.

Czeżowski is obviously aware of the differences that separate singular propositions from categorical ones. He nevertheless does also notice certain similarities between them, and he points out, in the words : "singular propositions may be said to be a kind of hybrids" (p. 394). Just as hybrids possess some features of their parents, so too, singular propositions possess some features peculiar to universals and some peculiar to particulars. Czeżowski enumerates those similarities and takes them into account when formulating his Rule II.

Rendering that Rule in the words, "singulars may be regarded either as universal or as particular" (p. 522) Mackie misrepresented it, for he omitted there a very vital point—the reference to some, but not all, features of a proposition. Czeżowski does by no means affirm singulars to be sometimes universal and some other times particular. In fact they are neither the one nor the other, being—in some respects only—similar to both. Speaking more exactly,

¹ Cf. J. Łukasiewicz, *Aristotle's Syllogistic from the Standpoint of Modern Formal Logic* (Oxford, 1951).

singular propositions enter logical relations that are similar to some relations obtaining among categorical propositions. And that is precisely what Rule II states.

The assumption that the term 'M' in 'This M is P' is not distributed would indeed undermine Rule II—if it did state singulars to be always or sometimes universal. However, the rule does nothing of the kind. Hybrids do not have to and indeed cannot possess all the characters of their protoplasts; it is sufficient that they have some characters in common with them. The fact of the subject term's being undistributed is a feature marking the difference of singulars from universals and at the same time, their similarity to particulars. That, however, corroborates rather than refutes Czeżowski's Rule II. On the other hand, Czeżowski is well aware of the fact that his treatment gives rise to a new difference between universals and singulars, in the form of the undistributed subject. He makes that perfectly clear on page 393.

I might finally add that, even if the assertion about the undistributed subject term in propositions of the 'This S is P' form were in fact inconsistent with Rule II—as, let me once more stress it, is most certainly not the case—even then it would be wrong to infer therefrom that the rule is false. It would be more proper then to say that it is impossible for that assertion and Rule II to occur side by side within one non-contradictory system. Now that by itself could not suffice to tip over the balance either way, to determine which of the two should be rejected.

Ad(4a). Mackie very aptly observes that the proposition of the form, 'All XS are P' (as well as 'Some XS are P') is connected by relations of inference that are quite analogous to those belonging to the proposition 'This S is P' in Czeżowski's hexagon. That observation, however, remains in perfect harmony with Czeżowski's theory. For if singular propositions have been found to be akin to categorical propositions, then it is not at all surprising to find them also akin to the proposition 'All XS are P'—it being a categorical proposition.

However, the discovery of that analogy does not authorize the inference that the role of 'This' could be reduced to the function of a determinant. Upon comparison of 'This S is P' with 'All XS are P', it becomes clear that correspondent to the pronoun 'This' of the former, is, in the latter, the complete phrase 'All X', and not just merely 'X'. Thus at first sight it would appear that 'This' assumes the function of both determinant and quantifier. We shall further see that in reality the case is somewhat different.

Ad(4b). It is not true that it is possible to assemble such a collection of determinants as to make 'All XYZS' coincide with 'This S'. The expression 'XYZS' could serve to denote an individual only provided it was a so-called definite description—such as, e.g. 'The biggest city in Europe'. According to the theory originated by G. Frege and developed by B. Russell, descriptions are incomplete

symbols.¹ They should not therefore be confused with predicates occurring in categorical propositions. The structure of the proposition, 'Every husband is a man' can be represented in the form, $(x)CSxPx$, whereas the proposition 'The husband of Xanthippe is a man' is symbolized by $P[(rx)Sxa]$, with 'P' standing for 'man', 'S' for 'husband', 'a' for 'Xanthippe', and the whole reading as, 'The one and only one x which is the husband of Xanthippe, is a man'. To prefix a universal quantifier, '(x)', to the latter of the two propositions would be a syntactical error, since the variable 'x' has already been bound by the iota-operator. And thus, when 'XYZS' is to represent a description, the phrase, 'All XYZS' is a nonsensical combination of sensible expressions.

The theory of description is not devoid of some degree of artificiality. But the inadmissibility of the phrase 'All XYZS' can be demonstrated in another way, too. In systems based on the theory of types predicates constitute expressions of a higher level and different type than individual names. If 'XYZS' is a variable symbol which can be replaced only by compound names of individuals, then the phrase 'XYZSx', containing no predicate and composed only of two signs of the type O, does not constitute a propositional function and cannot be introduced in place of the function 'Sx' in the affirmative universal proposition $(x)CSxPx$.

It should be stressed that the results of that analysis are in perfect unison with current linguistic intuition. In everyday speech we never use the quantifier 'every' before a name denoting but one object. In the proposition, 'Every present capital of France is situated on the Seine', the word 'Every' is felt to be superfluous or in fact, improper.

Thus Mackie is wrong to think that he has succeeded in finding an equivalent for 'This S is P'. 'All XYZS is P' is a faultily constructed expression, just like 'All Socrates is Greek' or 'All this S is P'. The same can be said, *mutatis mutandis*, of 'Some XYZS is P'.

Ad (4c). Mackie is right when pointing out that the phrase 'This S' happens occasionally to occur in the grammatical predicate of a proposition. That, however, by no means corroborates the thesis about 'This' not being a quantifier and 'This S' being a name. Mackie's fear of quantification of predicates is unfounded. The classical theory of the distribution of terms tends to suggest a view of categorical propositions implying the predicates' quantification—namely,

(Table 1) SaP: All S are some P

SeP: No S is any P

SiP: Some S is some P

SoP: Some S is not any P.

¹ Cf., e.g. Whitehead, A. N., and Russell, B., *Principia Mathematica*, 2nd ed. (Cambridge), pp. 66, 173.

It is not surprising therefore that the idea germinated in Hamilton's mind, "to state explicitly in language all that is implicitly contained in thought". However, Hamilton committed an error. He combined in a mechanical way all the possible locations of the quantifier, obtaining thus eight, instead of four, categorical propositions. As a result, he landed in the "disastrous consequences" the most important of which is the change of the traditional meaning of quantifiers. If, however, the four kinds of propositions, interpreted in the manner described above (Table 1), be retained, then predicate quantification, far from being risky or entailing any essential changes in traditional logic, becomes an entirely correct mode of putting into words *explicite* that which had *implicite* been thought in the mind.

Considered in the light of the classical theory of the distribution of terms, the introduction of singular propositions of the form 'This S is P' compels us to reject the view about 'This S' being a term. Here is proof.—Let us assume 'This S' to be a term (assumption A). Let us next consider the following pattern of reasoning: If this S is P, then some S are P. According to universal opinion, that pattern is valid. Now according to Czeżowski's hexagon, this is simply *oppositio subalterna*. But accepting the assumption about 'This S' being a term, the above reasoning must be regarded as an enthymeme, since the 'S' of the conclusion is not identical with the 'This S' of the premiss. In a developed form, the enthymeme will appear as follows:

(Sm₃) This S is P
 Some S is this S
 ∴ Some S is P.

Thus the premiss that is understood here is, 'Some S is this S'. Hence, it can be seen that the assumption A leads to an acceptance as correct of propositions of the form, 'Some S is this S'. Next, confronting that result with the theory of the distribution of terms, it would still be necessary—in agreement with Table 1—to accept as correct the proposition with the quantified predicate, 'Some S are some this S'. But in line with what has previously been said, the phrase 'Some this S' is inadmissible, and so, too, the proposition 'Some S are some this S' ought also to be discarded as misconstrued. It now becomes evident that the assumption A leads to the false conclusion that a certain proposition that is incorrect is correct. Hence, A is false.

All these complications can be very easily resolved by assuming 'This' to be a quantifier. It is permissible then to draw—as Czeżowski does—a direct conclusion, 'Some S is P', from the premiss 'This S is P', since 'S' remains the same term in both the premiss and the conclusion. Still, that does not mean that we must do without propositions having in their predicate the phrase 'This S' (we might call them 'singular-predicative propositions'). On the contrary, such propositions, as 'Some P is this S', 'No not-P

is this S', etc., are quite indispensable. It is they that enable us to convert equivalently 'This S is P', and to construct syllogisms of the kind of (Sm_3) and others. However, no proposition containing the word 'This' may be identified with an ordinary categorical proposition of any sort. 'Some P is this S' is not an affirmative particular 'SiP', because its predicate is quantified differently, and, as we have already seen, the prefixing of 'some' to 'this' is inadmissible. It is precisely for this purpose that the quantifier 'This' is placed by the predicate, to emphasize the difference between, and prevent the confusion of, singular-predicative propositions and categorical ones.

Ad(4d). The syllogism (Sm_3), accepted by Mackie as valid, is not so, since it contains a singular-predicative proposition with a universally quantified subject. Now if for 'S' we substitute a singular name, then the minor premiss and conclusion will be syntactically incorrect. And if, instead, we substitute a universal name for 'S', then the minor premiss will be always false, and therefore the syllogism will not guarantee the truth of the inference. It is enough, however, to replace the universal quantifier by a particular, to obtain a perfectly satisfactory syllogism. After all that has been said above, it would surely be superfluous to add, that in the syllogism that has been thus adjusted, the middle term will no longer be 'This M', but 'M'.

So much for the objections and arguments presented by Mackie. And now, finally, one or two loose remarks concerning the word 'This'.

The characteristic feature about quantifiers is that prefixed to a propositional function, they change it into a true, or false, proposition. Thus, for instance, when a universal quantifier is prefixed to the function 'x is a table', we obtain a sensible though false proposition 'for every object x, x is a table'; and when it is a particular quantifier that is prefixed, the proposition obtained is a true one: 'for some object x, x is a table'. That characteristic trait of quantifiers is also possessed by 'This'. By its means it is possible to turn a function into a proposition—on one condition, however. I shall explain presently what condition it is that I have in mind.

The word 'This' is frequently classed among occasional expressions, i.e. such expressions which alter their meaning according to attendant circumstances. Such a view does not seem to me right. The pronoun 'This' plays always one and the same rôle, that of informant conveying the news that the enunciation it precedes concerns a single object—or, in other words, that a certain single object performs a given function. However, the pronoun 'This' does not supply the information as to what particular object does that function-performing. For that reason, the expression 'This S is P', taken out of its context, out of its attendant situation, does not constitute a proposition but is merely an incomplete phrase wanting complementing. That complement is supplied by the elements of

the situation in which the phrase has been used. The accompanying gestures, facial expressions, the propositions preceding it, and other similar factors which might be included under a general name of 'situational context', all indicate the object in question, specifying the value of the bound variable of 'This'. Hence, the phrase 'This S is P', taken out of its context, can be represented as '(This $x_{\alpha} \dots$)KSxPx', the quantifier reading: 'For the x (which is identical with \dots)'. When used in a concrete situation, on the other hand, it turns into '(This x_{α})KSxPx', 'a' being furnished by the situational context. Thus the basic difference between the universal and particular quantifiers, and the singular one, consists not only in the fact that 'This' tells us to select only one element out of a totality of objects, but also in that the element thus selected must be clearly identified. And that is the condition I spoke of earlier. The bound variable is here confined to one specified value. Until that value is given, 'This' will not change the function into a proposition.

The extension of classical logic over to singular propositions can hardly be brought about without some shocks. The traditional rules and notions require revision and modification. In the first place, certain rules concerning the validity of syllogisms become false. For instance, the rule requiring at least one premiss to be universal can no longer be regarded as right. For in the first figure already we shall have nine cases disobeying that rule. Similarly, readjustment will have to take place in the rule requiring the middle term to be distributed in at least one premiss. Here again, already in the first figure, we find eight important syllogisms which do not satisfy that requirement. Thanks to the introduction of a new set of concepts, it will be possible to formulate an adequate rule.

The traditional conception of the distribution of a term must undergo a change. In the past it had not been quite precisely formulated. A term was said to be distributed if it was "employed in its full extension", or when "reference was made to all the designata of the term, and not merely to a part of its extension". Such definitions very inaccurately conveyed the ideas the logicians wished to express. For terms were considered undistributed even when reference to the whole extension was not ruled out, e.g. in an affirmative singular proposition the subject is not distributed, yet the possibility is not eliminated of reference being made to the full extension of the subject. Surely the meaning of the phrase, 'Some S' is 'at least some S' and not 'only some S'. It is therefore inaccurate to say that reference is made to a part of the extension only.

A better understanding of the meaning of 'distribution' can be gained by analyzing the rôle of quantifiers. Already in the Middle Ages some scholars (Albert of Saxony) realized the universal quantifier to be a conjunction, and the particular quantifier an alternation.¹ Indeed, in systems based on a finite domain of n individuals, the

¹ See I. M. Bocheński, *Formale Logik* (München, 1956), pp. 271-272.

equivalences given below may be regarded as definitions in use of the universal and particular quantifiers:¹

$$E(x)PxKPa_1KPa_2 \dots Pa_n$$

$$E(Ex)PxAPa_1APa_2 \dots Pa_n$$

' a_1 ', ' a_2 ', ..., ' a_n '—representing proper names of particular individuals of the domain. The above definitions bring into full evidence the obvious truth that the domain of terms quantified particularly may be identical with the domain of terms quantified universally. In both cases reference is made to the same totality of objects, only the reference itself is different. The universal quantifier determines each designatum of the name, because every component of the conjunction must be true. All that the particular quantifier does, on the other hand, is to characterize in a general manner, the domain, without giving any insight into the individual objects—since every component of an alternation taken separately may be false, provided they are not false all together. Thus, the distribution of a term T in a proposition P consists in such a manner of quantifying T as to have P convey information about each particular designatum of T . Such a conception of distribution might be termed 'absolute'.

The introduction of the quantifier 'This' into traditional logic necessitates the replacing of the absolute conception of distribution by a relative one. To realize that clearly, it might be useful first of all to envisage the meaning of the singular quantifier. With a view to emphasizing its connections with the definitions, given earlier, of the universal and particular quantifiers, the definition in use of 'This' might be expressed in the form of the following equivalence:

$$E(\text{This } x_{-a_k}) PxPa_k$$

with $1 < k < n$. The definition instructs us that a proposition containing a singular quantifier deals with one single specifically chosen element of the domain, keeping silence as regards the remaining elements of that domain. It could thus be said that the universal quantifier "quantifies stronger" than the singular—meaning that the former conveys information concerning every designatum of a name, whereas the latter does it about one only. On the other hand, the singular quantifier "quantifies stronger" than the particular, in that the information conveyed by the former relates to one definite designatum, whereas that provided by the latter does not. It is now possible to introduce a relative notion of distribution. Namely, we shall say that a term T_1 , occurring at a place P_1 is more distributed than a term T_2 , at a place P_2 , if T_1 is quantified stronger than T_2 .

This relative conception of distribution enables us to formulate the following rule R : If a term T occurs in an undenied premises p ,

¹ Cf., e.g. R. Carnap, *Einführung in die symbolische Logik* (Wien, 1954) p. 56.

then, in the undenied conclusion q , T must not be more distributed. It may, however, be more distributed in a denied conclusion, Nq . The rule R is satisfied not only by all the formulae of classical direct and indirect inference, but also by all valid formulae that can be obtained by introducing into traditional logic the propositions with the quantifier 'This'. Still, all that rule R does is, to provide a necessary condition for the validity of inference, but not a sufficient one; it therefore still wants supplementing with other rules, yet to be devised.

Finally, I might add that properties quite analogous to those manifested by the singular quantifier 'This' are also characteristic of all the other demonstrative and possessive pronouns, such as 'that', 'my', 'your', 'our', etc.

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MORAL ARGUMENT

THE thesis is advanced by R. M. Hare¹ that a judgment on an action or state of affairs is a *moral* judgment only if the person who makes it accepts some universal moral principle which, together with some true statement about the non-moral characteristics of the situation originally judged, entails the original judgment. Instances of this thesis would take some such form as saying that someone who says 'You ought not to have done what you did' cannot be expressing a moral judgment by this unless he accepts something of the form 'Actions which are *A* are wrong and what you did was *A*', or 'People who are *A* ought not to perform actions which are *B*, and you are *A* and what you did was *B*'. Hare claims that it is analytic that every moral judgment is so supported; he claims, that is, that 'universalisable' is part of the meaning of 'moral'.

I think that Hare is perfectly right about this, but the question of truth is not what I am now primarily concerned to discuss. What I wish to bring out here is something of what can be built on the basis of Hare's thesis, for I think that it is important in ways which Hare has not publicly discussed. Furthermore, there is something to be said for the view that the best way to argue for the truth of the thesis is to bring out clearly what makes it important.

It is sometimes urged that the thesis is true but trivial. It is said: 'If Hare's thesis is that my judgment qualifies as a moral one only if it is an application of some universal moral principle which I accept, then the thesis allows any *prima facie* case of a moral judgment to qualify as a genuine moral judgment: nothing could fail to qualify. For it is always possible to form a universal principle of the form "Anything which is [*complete* description of the subject of the original judgment] is [moral characterisation as given in the original judgment]", and to claim honestly enough that one accepts this "universal principle"—to claim, indeed, that accepting the original judgment *was* accepting the "universal principle". This is just a logical trick, admittedly, but does the thesis admit of it, and if not how does it exclude it?'

Hare, to whom I am indebted for a discussion of these matters, argues that even when the thesis of universalisability is construed in such a weak form as not to exclude this 'logical trick', it has consequences which are far from trivial. His tracing out of these is of the greatest interest, and one must hope that it will soon appear in print. But my present concern is with what follows from the thesis if it is strengthened a little—just enough to meet the objection cited above. Such a strengthening could be achieved by an expansion of the first sentence of this paper to read '... together with some true statement about *some but not all* of the non-moral characteristics of the situation originally judged ...'. In what follows, the universalisability thesis will be understood in this way.

¹ R. M. Hare, 'Universalisability', *Proceedings of the Aristotelian Society*, vol. lv (1954-55).

The thesis as thus reformulated still meets with an objection: 'The thesis now specifies that for a judgment to be a moral one it must be an application of a principle which is not just universal in the sense that it contains an initial universal quantifier followed by nothing but quantifiers, variables, predicates and logical connectives; but which is also genuinely general, in the sense that its acceptance would commit one to the same judgment on other individual situations which were not the same in all respects as the one dealt with in the original judgment. But in how many respects might they be alike? Are we to suppose that the thesis leaves it open, as on the present formulation it certainly does leave it open, for the universal principle to be so comparatively ungeneral that no such principle covers two actual situations? If the thesis is not to be as liberal as this, how can it specify its illiberality? On the other hand, if the thesis is to be regarded as verified by universal principles of such a degree of ungenerality, then it is "trivial" not in the technical sense but in the equally damaging sense of being without interest or importance. For it claims to state a necessary condition of a judgment's being a moral one; but how can it possibly matter whether or not a judgment fulfils this condition? So far as this condition is concerned, a judgment can be a moral one without its involving any commitment at all to any moral judgment on any other actual situation, past, present or future. If I make a moral judgment in saying "What you did was wrong", then all that the universalisability thesis says is that I am committed to something of the form "Any action which is——is wrong" where the blank can be filled with a description of your action which, while it stops short of completeness, is nevertheless so detailed that there is no chance at all that I shall ever again be called upon to act on it or judge in accordance with it.'

The best way to meet this challenge is not to attempt a further tightening up of the universalisability thesis, but rather to show that the thesis has important consequences even when it is construed in this fairly weak form.

Suppose, then, that you and I accept the universalisability thesis, and that I pass a judgment of the form 'What he has just done was wrong', claiming that I intend this as a moral judgment. You do not agree with this judgment, and you argue with me about it, not in order to 'prove' that the judgment is 'false' but in order by rational means to get me to withdraw it, or perhaps, by rational means, to get those listening to the argument to dissent from my judgment. You challenge me to produce the universal moral principle which I accept and of which my judgment is an application. That is, you ask 'Why was it wrong?', insisting upon a certain sort of answer which I agree that I am committed to being able to give. If my reply to this is average, it will be fairly brief: 'Because what he did was *A*, and all *A* actions are wrong.' You are now in a position to proceed against me through my universal principle, not

just through my specific judgment. 'All *A* actions are wrong? All? But suppose . . . ' and you now try to find a counter-instance to my principle; that is, to describe an action, real or imagined, which has the property *A* but which I do not judge to be wrong at all. If *A* is a fairly uncomplex property, you will have little difficulty in finding such a counter-instance; for most people do not accept in their full generality any universal principles of the form 'Everything which is *A* is *M*', where '*A*' stands for a brief non-moral description and '*M*' stands for a moral characterisation. We may suppose, then, that you do succeed in finding a counter-instance to my principle. I accordingly admit that I mis-formulated my principle, and that I should have said 'All actions which are *A* and *B* are wrong', where the action originally judged was *B* and the action described in the counter-instance was not *B*.

You will be acting unfairly if you accuse me of dishonesty. The gambit which begins 'What I really meant to say was . . . ' is often rightly suspect, but not here. It is possible genuinely to accept a moral principle and yet to have to struggle to formulate it; and accordingly, in very many situations in which I announce my principle in terms of *A* and then in the face of a counter-instance go back and expand it in terms of *B*, it would be proper to grant that I am in a straightforward sense getting nearer to the principle which I did in fact accept when I made the original judgment. In some cases, certainly, it will not be plausible to say that I really accepted the revised principle all along. Eyebrows might rightly be raised at a remark of the form 'I see now that I have always accepted the principle that any action which is *A*, *B*, *C*, . . . *X*, *Y* and *Z* is wrong; and that is why I condemned his action'. In such a case, the principle is so long and complex that it may be utterly implausible to say that it was in any plain sense (unformulated but) 'accepted' and that the specific moral judgment was 'derived' from it. But the universalisability thesis would be wrong if it demanded that the universal principle which backs any moral judgment must be one from which the maker of the judgment can honestly claim to have derived his judgment. It suffices—and Hare clearly intends the thesis in this way—that anyone who makes a specific moral judgment shall under challenge be able to produce a universal principle which has the appropriate logical relations with the specific judgment and about which he can honestly claim (a) that he does now accept the principle, and (b) that he does now regard the specific judgment as one which he makes only because he accepts the principle. We might sum this up by saying that the universalisability thesis does not demand that a system of moral judgments be reached by rational steps, but it does demand that any specific moral judgment be, at least in theory, rationalisable on demand.

We may take it, then, that you will not deny my right to meet the challenge presented by your counter-instance, by expanding or weakening or complicating my universal principle. If you wish to

continue the argument, you can now try to find a counter-instance to the expanded principle. Again, if 'A' and 'B' are taken to stand for reasonably average descriptive adjectives, the finding of a new counter-instance should not be too difficult. In the face of such a new counter-instance, I can go back to expand my universal principle still further, into something of the form 'Any action which is A, B, and C is wrong', where C is a property possessed by the action originally judged and lacked by the action described in the new counter-instance.

One important thing to note about this sort of argument is that I need never lose it. For in each step of the argument, I can adopt either one or two alternatives: I can deny that your would-be counter-instance is a counter-instance, saying 'Yes, that would be wrong too'; or I can admit that you have found a counter-instance, and revise my rule accordingly. In applying my principle to what you thought was a counter-instance to it, I may surprise you, but you cannot 'falsify' the moral judgment which I thereby make. Nor can you 'falsify' any expanded universal principle which I may produce in the face of a genuine counter-instance.

But there is a second important point about this sort of argument, namely, that there is a sense in which you may indeed win, and I may lose, the argument. For I may very well find myself in a position where I am faced with a choice between (a) accepting a specific moral judgment on an action described in one of your would-be counter-instances, which it embarrasses me very much to accept, and (b) expanding my universal principle by adding to it some predicate which it embarrasses me very much to have to admit to be morally relevant. The point about the second alternative is that, while there is no need to be discomfited by the admission that one accepts a moral principle of the form 'Any action whose character is thus-&-so, whose motive is such-&-such, whose results are so-&-so, and whose agent has a black face, is wrong', it may well be embarrassing to admit that the reference to skin-colour needs to be included, that if it were omitted one would not accept the principle.

Some explanation is required of the term 'embarrassment' as I am using it here. My embarrassment may arise from my having to admit that I do really regard your counter-instance as a counter-instance, and to admit also that, as between the action described in the counter-instance and the action upon which I originally passed judgment, I can find no qualitative difference which I can honestly claim to regard as morally relevant. In such a case, if I am honest, I shall withdraw my original judgment. It will still be incorrect to say that you have shown my judgment to be false; but you will have shown that the price which has to be paid for its rationalisation is one which I am not prepared to pay; or, what-amounts to the same thing, you will have shown that the totality of all my moral judgments cannot be rationalised at all, including those like 'I must admit that I do not regard skin-colour as a morally relevant

feature'. If the argument terminates in this way, I shall have genuinely learned something from it. I shall have learned that a specific moral judgment which I voiced perfectly sincerely is not tenable *by me*.

There is a second way in which I may be embarrassed by your argument. My difficulty may arise not because I am unable to square my conscience with either of the options with which you face me, but because the option which I am prepared to accept with no inner struggle (either the option of the form 'Well, I think that skin-colour does make a difference' or the option of the form 'You tell your story most touchingly, but I still think that your hero did act wrongly') is one which I know or think will be strongly dissented from by those who are listening, so that I am embarrassed by being forced into a position in which I can maintain my original judgment only at the price of losing support. It must not be thought that this sort of embarrassment is merely that of the man who has been forced to reveal something which he would rather conceal. Someone may, for example, believe that he can rationalise his condemnation of some action of a socialist government on the basis purely of moral principles which he believes all his audience to accept, but be led by argument to see and to admit that he cannot rationalise the judgment except by an appeal to peculiarly conservative principles which he knows not to be shared by all his audience. In such a case, his embarrassment will arise not from any revelation that he holds conservative principles, but rather from a demonstration that he must appeal to such principles in defence of the specific judgment which he has made on this occasion. Such a revelation or demonstration may hinge on his acceptance of a would-be counter-instance, or on his making of judgment of moral relevance. These two have their distinct logical functions in moral argument, but no special sort of moral position is associated with either.

What all this comes down to is that if the universalisability thesis is correct then issues of consistency can be raised with respect to moral judgments on individual actions and situations. No two specific moral judgments with different subjects can be inconsistent as they stand. But a pair of such judgments, where one expresses condemnation and the other expresses permission or approbation, or where one expresses approbation and the other expresses 'permission-not-to' or condemnation, may be shown to be inconsistent in the moral system of the person who makes them. Specifically, they are inconsistent in this system unless the system contains universal moral principles from which both judgments follow, and also contains judgments of relevance such that the principle from which one judgment follows does not rule out the other judgment.

For an expression of condemnation to be inconsistent with an expression of permission-or-approbation is simply for it to imply another condemnation; and this fact provides a way of re-stating the matter of the previous paragraph so as to bring it closer in verbal

form to the prevalent and important sort of remark which says 'Be logical; if you think this is wrong you ought also to say that is wrong too'. The re-statement is as follows. Anyone who passes judgment on a particular situation or action has a very wide choice indeed as to what other specific judgments he allows to cohabit with the original one in his moral system; but on the universalisability thesis he must allow some such other judgments, and which other ones he can allow will depend in part upon the nature of the original judgment with which they must cohabit. And it may be that his only way of avoiding allowing his initial judgment to keep unwelcome company is to jerry-build his structure, i.e. to prevent his original judgment from leading him into a multitude of unwelcome judgments by declaring to be morally relevant some characteristic which he does not really regard, or which he does not wish to be known to regard, as morally relevant.

The upshot of this is that it is not true that once we have settled all the relevant empirical matters we can only agree to disagree on the moral residue, or at best proceed by non-rational techniques of persuasion and the like. It is extraordinary that philosophers should so often have stated this to be the case when it is so patently untrue of what does happen when there is disagreement over moral questions. Strictly moral argument does occur, and sometimes it yields results of one of the sorts which I have infelicitously characterised as sorts of 'embarrassment'. Results of any of these sorts are particularly likely to be reached when someone has made a specific moral judgment which does not seem to accord easily with what he would wish to be taken as his over-all moral position, as for example when a self-declared humanist approves of a hanging, when a Christian approves of a war, or when a democrat condemns the overthrow of a tyrant. But there may also be value of a less dramatic sort in arguments over moral judgments which are not at all obviously misfits. Even a careful and thoughtful person will occasionally allow something which is only a prejudice to masquerade as a moral judgment; and as soon as that happens his system of moral judgments will contain tensions which can be made to cause outright fractures, through the pattern of argument dictated by the universalisability thesis.

Finally: *De gustibus non est disputandum*. Has not this fact provided the main intellectual motivation for opposition to any analysis of moral judgments as not being statements of a special sort of fact? The universalisability thesis provides an important differentia between moral judgments on the one hand and commands, expressions of taste, etc., on the other; a differentia which precisely and fully answers this particular criticism of 'non-factual' theories of moral judgments by showing how, even on a 'non-factual' theory, there can be moral argument in a straightforward sense of 'moral' and of 'argument'.

MR. BRADLEY ON THE FUTURE

In discussing the truth of predictions, Mr. R. D. Bradley¹ takes 'truth' in a sense which is acceptable but different from other acceptable senses. He then bases some of his argument against the view that predictions are neither true nor false on his sense of the words of the 'truth' family, without always allowing much weight to alternative senses. On page 204 he writes:

The truth of a proposition about the future implies, not that something *is* the case, but that something *will* be the case. . . .

This implies that to call a proposition true is to *imply* (not that something is the case but) that something will be the case. So it looks at first as if it would go with the view that to call a proposition true is to endorse it, concede it, affirm it oneself abbreviatorily, on an occasion when someone else has affirmed it or might affirm it. (Mr. Strawson, "Truth", *Analysis*, 1949.) Now although it is possible simply to endorse a proposition without oneself having any evidence for it, perhaps one ought to have evidence or good reasons for doing so. Stemming from this there could be two views of what it is to call a proposition true. One is that it is simply to endorse the proposition without necessarily implying that one has any evidence for it; we could call this the "endorsement" view. The other is that to call a proposition true is to endorse it and to imply possession of good reasons for endorsing it; we could call this the "endorability" view. On both views one could (depending on how widely one construed the term 'proposition') endorse propositions of several kinds by calling them true, e.g. predictions and moral judgements.

Bradley rejects fatalism. Hence if he were concerned with evidence which might be produced by someone who made or endorsed a prediction, he would expect it to be inductive. However he implicitly suggests that inductive evidence is not much to the point. Jones may claim that a prediction is true, in the face of inductive evidence for its negation, and still the prediction may in due course be confirmed. What Jones claimed *was* that it would be confirmed in due course, and he was not here also implicitly claiming that he had good inductive evidence on which to endorse the prediction.

Thus Bradley might wish to adopt the endorsement view. This would provide for calling both pure guesses and inductively based predictions true, equally properly. That would be all right provided everyone realised that 'true', when said in this sense about predictions, did not necessarily convey any claim to the possession of evidence. We could have some other way of marking the difference between guesses and inductive predictions.

¹ "Must the future be what it is going to be?", *MIND*, April 1959, pp. 193-208. Page references are to this article.

But this is still not quite Bradley's implicit view of truth. If expressed, his view would emphasise that a proposition may be true whether or not anyone endorses it, let alone whether any who do endorse it have evidence on which to do so. His view is not much concerned with endorsability nor with endorsement. It is concerned, implicitly, with the verifiability, or confirmability, at appropriate times of the propositions called true. Clearly, Bradley would agree that the appropriate times are (a) for propositions about the past: past (as far back as the time which the proposition is about), present and future; (b) for propositions about the present: present and future; and (c) for propositions about the future: future (but not before the time which the proposition is about).

The endorsability view needs buttressing with elements of Bradley's view. Otherwise a prediction may on the former view be true now—that is, endorsable on inductive evidence—but may become false later, that is, its negation may become endorsable because the prediction is in due course disconfirmed. This falsificatory evidence would outweigh the inductive evidence available earlier. Apart from the difficulties, which Bradley discusses, in talking of a proposition being true at a certain time, we would have here an unacceptable change in one and the same proposition from being true to being false. So anyone who wanted to hold an endorsability view would have to modify it, *e.g.* by holding that what it is important to claim of a prediction by calling it true is its eventual confirmability and not only the present possession of evidence. Thus to call a prediction true would on the modified theory be not merely to endorse it and to claim to have reasons for doing so, but also, and primarily, to claim eventual confirmability or verifiability.

But an endorsability theorist would still have an awkward choice when deciding what to say about guess-predictions. Should he endorse some of them by calling them true, even though he could not thereby imply the possession of evidence? Or should he refuse to call a guess-prediction true, even though it might be one which will in due course be confirmed? The requirements of the possession of evidence and of eventual confirmability cannot always be met simultaneously.

Another view of truth with which to contrast Bradley's is that of truth as current verifiability. Some people may be struck by (i) the way in which a claim about the truth of a statement about the past or the present can in principle be conclusively checked at the time of utterance; and by (ii) the lack of similar current processes of verification for, *e.g.* predictions; and by (iii) the availability of other means for expressing equally weighty endorsement of types of statement such as predictions (*e.g.* by calling them "well-supported") and moral judgments (*e.g.* by calling them "acceptable"). And thus they may prefer to reserve 'true' for present-tense and past-tense descriptive utterances and to use different endorsements for other types of utterance.

This envisaged diversity of usage and theory would provide a situation of familiar type, with different parties emphasising different aspects. What I think Bradley would wish to emphasise is (1) verifiability at some appropriate time. Another group would want to stress, (2) endorsability and implied possession of reasons. A third group would regard as important, (3) current verifiability, or the type of process which one can currently carry out to establish the degree of acceptability of the proposition called true. If each group used 'true' with its own emphasis there would be danger of confusion in communication between the groups. But we might also hope that each group would make its own emphasis clear and recognise the propriety of alternative emphases.

Turning now to those who emphasise (3), current verifiability, I wish to argue that they could formulate the laws of thought without using the word 'true', which Bradley does use in his formulation of the law of the excluded middle (p. 193). They could accept his version of the law of identity for subject-predicate propositions ("Fx entails Fx") and of the law of non-contradiction ("Fx and not-Fx" is logically impossible"). And they could formulate the law of excluded middle as "Necessarily, either Fx or not-Fx". Stressing the question of current verifiability, they would prefer not to call predictions true or false—not to do so, that is, before the time which the prediction is about. But they are still able to maintain that "Either x will F or x will not F" is necessarily true. They are still able to adhere to the law of excluded middle, because since they take 'truth' in the sense of current verifiability, they can hold that this law exhibits a relationship of mutually exclusive and jointly exhaustive meanings, and not simply a relationship of truth-values. And they can consistently maintain both this, and that one cannot currently verify the component predictions in the disjunction of a prediction and its negation, but can only look for inductive evidence for them.

However, they would agree that if one took 'truth' in the sense of verifiability at the appropriate time one could talk of the truth-values of predictions. They simply would not see much point in saying "This prediction is either true or false, only we don't yet know which" when (a) one could substitute "will be either confirmed or disconfirmed" for "is either true or false", and when (b) those cases in which they do call propositions true or false admit in principle of a current checking procedure. They would agree that the "T" and "F" in terms of which we define truth-functional disjunction would need to be interpreted in the case of predictions as, e.g. "will be confirmed" and "will be disconfirmed"; but they have their reasons for not equating these with "true" and "false".

They would, however, not agree that, if we were to regard truth as reasonable endorsability, we could take "Either 'x will F' is reasonably endorsable or 'x will not F' is reasonably endorsable" as a schematic exemplification of the law of excluded middle. For

there may be no grounds for endorsing either. And turning to the endorsement view, they would point out that "Either 'x will F' is endorsed or 'x will not F' is endorsed" is not necessarily true; both predictions might go unendorsed.

It might be objected to the view of the law of excluded middle held by those who regard truth as current verifiability that one has anyway to explain the meaning of a prediction in terms of what would have to be the case for it to be confirmed; and that this is to explain the meaning in terms of truth—'truth' in the sense of 'verifiability'. An unsatisfactory counter to this is that one would have to know what a prediction meant before one could set about checking, at the appropriate time, whether it was confirmed. But at least one logically cannot explain the meaning of a prediction in terms of *current* verifiability. And to explain it in terms of what would have to become the case for the prediction to be confirmed is to explain it in terms of eventual confirmability or future verifiability; or perhaps in terms of eventual endorsability based on future confirmability. So the objection would not show that one has to explain the meaning of a prediction in terms of current verifiability.

Further, the objection was couched in terms of knowing what *would* have *eventually* to be the case, etc. So the difference between the meaning of a prediction and its eventual confirmability or future verifiability (its truth, if we adopt emphasis (1)) has to be investigated in terms of some notion which will account for the 'would'—perhaps potentiality, or possibility, or time.

If in talking about truth one stresses current verifiability, then regarding the two values of two-valued logic as meaning-values does not depart altogether from the spirit of the truth-functional approach. The notion of meaning is one of a circle of inter-explicable notions along with (a) the notion of assertibility-conditions, of which verifiability is one (cf. Mr. Dummett, *Philosophical Review*, July 1959, p. 337) and with (b) some such notion as potentiality. The proposed meaning-values, called perhaps "positive" and "negative", would exclude each other as do the standard "T" and "F". It is no good trying to regard them as "possibility-values", for the possibility of the state of affairs predicted in a statement about the future does not exclude the possibility of the state of affairs predicted in its negation; the possible eventual confirmability of a prediction does not exclude that of its negation.

Thus those who choose to emphasise current verifiability and restrict their use of 'true' accordingly would not "(restrict) the area of application of two-valued logic" (p. 195). They would normally allow no further alternative to "x will F" and "x will not F".

This needs qualifying. If whoever says "x will not F" presupposes the existence of x at the future time, then there is a third alternative to the prediction and its negation. This is the prediction

that the world will end before the time to which the other two predictions refer. Even such a prediction as "There will be a war next year", which is not of the same form as " x will F ", would (if the world were to end before the end of the current year) be neither confirmed nor straightforwardly disconfirmed. There is some analogy to this third alternative among statements about the present or the past, provided they are of the same form as " x is (or was) F "; and that arises when x does not (or did not) exist. But there is no analogous third alternative in the case of a statement about the present like "There is a war on (in some inspectable region) now", for if this were uttered there could not NOT be a "now". Nevertheless those who wish to emphasise current verifiability would still regard a prediction and its negation as exhausting the normal possibilities. Most predictions presuppose that the world will last.

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WORSHIP AND GOD

It may be valuable, I think, to approach religious problems as S. Coval does,¹ by reminding ourselves that God is, by definition, the Being worthy of worship; a fact which may be obscured by too much discussion of First Cause and Necessary Being. But he fails to persuade me that this approach can dissolve or illuminate the traditional debates as easily as he thinks.

Worship, he truly points out, belongs to the large family of approval words, and is moreover the optimum one. Conscious metaphor apart ("he worships his bank account") we cannot "worship a finally imperfect or defective thing".² He also truly points out that "all approval words take an object"³ (we must desire, worship, etc., *something*). From these premises he reaches two sets of conclusions: (1) about descriptions of God; and (2) about God's existence.

1. God, he argues, is the tautologous accusative of worship. "'I worship God' amounts to 'I worship what I worship'" (save perhaps that it implies I am not a polytheist).⁴ And because we can only worship what is perfect, "then knowing you I can foretell the nature of your God"; just as I can "tell you what you take to be good if you tell me what you like, desire, approve of. If I know to which characteristics you are absolutely, extremely, superlatively, perhaps unremittingly or rabidly or unrelentingly, committed, I shall know what must be the nature of your object of worship, of your God. . . . All of this is tautologous".⁵

This is not tautologous; or if it is, that is because it operates as an implicit re-definition of "God" or "worship" or both. A polytheist does not think his gods are perfect, but only (perhaps) numinous. Even a monotheist logically need not attribute to God those characteristics to which he himself is unrelentingly committed. It would make sense for a man to say: "God indeed is merciful to all. But if we started forgiving everyone too readily, society would go to pieces—which is not what God wants." That is, even God's moral characteristics—mercy, etc.—can be represented as an ideal which it is impractical and hence undesirable for humans even to strive to achieve.

My main fear here is that something which is not said seems pretty clearly implied; namely, that we necessarily make God in our own image, by projecting on Him in superlative degree the ideals to which we are committed. But this surely confuses a necessary proposition with empirical assertions. There is indeed usually, for monotheists, a close connection between their conception of God

¹ "Worship, Superlatives and Concept Confusion", *MIND*, lxxviii (1969), No. 270, p. 218.

² *Op. cit.* p. 220.

⁴ *Op. cit.* p. 219 (cf. p. 220).

³ *Op. cit.* p. 219.

⁵ p. 220.

and their ideal of a man. But this is an empirical generalisation, to be proved by historical evidence. Moreover it leaves open which if either is cause and which effect—how far a vision of God may influence a society's ideal of man as well as vice versa. To say that our conception of God's perfection is always merely a reflection of ideals otherwise arrived at, is a second empirical generalisation which in turn requires further argument—e.g. a psychological story about father-figures. Now both these generalisations might be true (I think myself they are illuminating but only partly true); but they are not tautologies. To make it *necessarily* true that "knowing you I can foretell the nature of your God", the phrase "knowing you" must be extended to include "knowing what you think are proper characteristics of a being worthy of worship". Then indeed it is a tautology; but is it the one Coval wants?

To continue his argument: there is then a twofold rule for applying predicates to God. First if the category can apply at all, He has it in a superlative degree. "God is omni-pan-trans." Secondly, "where being the best of a category would ultimately diminish Him, He must be above and without it: *via negativa*. God is extra-super-a-non-in-un-¹". He uses this point to reach the conclusion of his article. "The rule for the apologist is: when the superlativity of God is endangered simply extricate Him entirely from the danger-area or make Him the utmost in that area. . . . Much theology has been an excellent exercise in one-upmanship."²

Coval here ignores the small band of theists who since Plato have denied some aspect of God's perfection—usually His omnipotence—because of their inability to reconcile this with the existence of evil. I too, then, will confine myself to orthodox theism.

Apart from the quite misleading suggestion that it is *simple* to "extricate Him . . . or make Him the utmost" (whereas on the contrary extremely complex conceptual problems are involved), I do not wish to deny any of his remarks. Even the jibe at the end has often been deserved. But the whole context implies that theologians and apologists have complete conceptual liberty to revise their accounts of God's nature, guided solely by their own ideal of worshipful perfection. If this be meant, it ignores the main fact present to their minds; that they are dealing with a body of writing or tradition which to them is authoritative and unchallengeable because it is God's revelation of Himself to man. I do not know whether Coval forgets this claim, or whether he intends to deflate it. But in either case it is not refuted by ignoring it.

Certainly one of the theologian's jobs is to "explain" those more primitive parts of his complex tradition in ways consonant with more developed conceptions. And it would be a good thing (I believe) if pious language were stripped away, and it were shown how close such "explaining" may sometimes come to "explaining away" in the light of a fuller concept of God's perfection. Here

¹ p. 220.² p. 222.

Coval's points, I think, throw light. But the implicit suggestion that this is the theologians' essential task is misleading in at least four ways. First, the tradition may cause statements to be made about the nature of God for reasons entirely unconnected with His perfection. The Christian doctrine of the Trinity (which is concerned basically with the relation of Christ to God) is a case in point. Secondly, even when God's perfection is, as it were, an axiom with which the theologian is working, he is committed to considering other factors too. He may for this reason emphasise some parts of his tradition and minimise others; but he cannot ignore any part of it. Thus no serious Christian theologian could possibly deny the wrath of God, or the atonement (both of which bear on the nature of God); and even too radical a reinterpretation of them would place him beyond the bounds of orthodoxy. Again, Coval's account ignores the extent to which a religious tradition may *shape* our ideal of perfection as well as be subtly transformed by it. Finally, and most seriously, it begs what from a religious viewpoint is the crucial question; whether such development in conceptual clarity is God's revelation or man's invention.

I would still like to end this section on a note of quasi-accord. I do not think Christian theologians have asked themselves carefully enough what they mean by (i.e. what is the philosophic analysis of) saying that a theological assertion is God's revelation rather than man's invention. In any such investigation the points Coval raises would have to be examined; but they would only be some among many considerations.

2. The other part of his argument is that the necessary worshipfulness of God dissolves all puzzles about His existence. If, he argues, you had a God, and did not wish to say He existed, then at least you could not say *simpliciter* that He was non-existent. Hence "There is a more precise name now for His status, and it is indicated by such words as 'imagined', 'mythical', 'fictional', 'figmental'". But you cannot seriously worship a fiction or myth. So "if you have a God, He must exist. That is a tautology."¹

Supposing that this only meant that you cannot worship God unless you believe that He exists, even this surely deals too swiftly with those people who deny it. Coval's conclusion is not a tautology, but is merely deductively necessary if the premises are accepted. What the argument shows is that such people are committed to disputing one of the premises. So they may, for example, fairly be asked: "Can you worship a myth?"; and "If not, then what do you say about your non-mythical yet non-existent God?" It might, for example, turn out that God has for them a logical status analogous to that of an unrealised ideal, similar to, say, the classless society where all men love each other as brothers.

I do not deny, however, that for traditional theism God's existence is essential. Indeed, those who deny this may fairly be accused of

¹ p. 221.

implicitly altering the usual meaning of "worship". "The trick, though", Coval goes on, "is to be able to see that existence is necessarily part of God's make-up because it is dictated by the logic of 'worship'. We do not worship Him because He exists or has such and such properties; rather 'to worship Him' means at least partly that 'He has such and such superlative qualifications'. Similarly it is not the case that you like so and so because you think it is good; rather 'you like something' means at least partly that 'you think it is good'." In each case the "because"s are vacuous; they are "more like repetitions". When we see this "we understand that descriptions of God are dictated by the necessity to create *omni-perfection*. . . . It is for this reason that God exists". Hence it is "entirely strange to conjecture about God's existence. . . . Questions such as 'Does God exist?' or 'Is there a God?' are to be seen as: 'Do you worship?' or 'Are there worshippers?'."¹ That is, we are to conclude: for the worshipper the answer is 'yes'; for the non-worshipper, 'no'; and there is no other objective answer, no further question of which of them is right.

One is reminded here of G. E. Moore's move in ethics when confronted with subjectivism. "This view", we might say, "entails that X who asserts, and Y who denies, the existence of God aren't really disagreeing. And surely this is absurd?" But subjectivism is not literally absurd. It makes sense to say that nearly all of us have been mistaken in imagining that religious (or moral) issues were even in principle settleable. All this does is to bring out the enormous change in our thinking which is being urged upon us; and thereby no doubt to throw the onus of proof more heavily on the subjectivist.

But fallacies can, I think, be shown. First, it is plainly false to say that "to worship God" means, even partly, that "He has such and such superlative qualities"; at most the former might entail the latter. It is equally plainly false to deny that "we worship God because . . . He has such and such qualities"; that is just why we do worship Him if we do. The question "Why do you worship?" surely needs an answer which is *not* vacuous, and one obvious one is: "Because I believe in the existence of a Being (namely God) who is worthy of worship, being omnipotent, omnibenevolent . . . etc.". These Divine predicates are not approval words at all, but descriptions; which is just where they differ from "good" in "I approve of X because it is good".

But, it might be replied, the logic of "omnipotent", etc. is different from that of all ordinary descriptions, and the "because" is a peculiar "because". For you do not first ascertain God's properties and then decide that they make Him worthy of worship; rather you alter your "descriptions" (when necessary and possible) to keep the worshipfulness. True. But this does not make them cease to be descriptions. It merely means that they describe (as

¹ pp. 221-222.

well as we are able) our ideal of perfection ; and the description of this ideal is not vacuous.

Apart from all this there is another and more central fallacy in Coval's argument: namely assimilating the assertion of God's existence to that of His perfection. Existence is not a predicate (or, if you like, it is not like any other predicate). To say "God exists" is (for any traditional theist) simply the presupposition of applying any predicates to Him. Certainly he must assert God's existence just as he must assert His perfection. But only because this is to assert that his worship is *justified*; that, given the nature of reality, worship is an *appropriate* activity, because there is a worshipful (i.e. perfect) being.

The approach to the existence of God via the notion of worship does not dissolve the issue between theist and non-theist. For the real question is not "Do you worship?" or "Are there worshippers?", but "*Ought* we to worship?" Theists and most non-theists would reply: "If there exists a being who has qualities worthy of worship, yes; and if not, no."

A true analogy seems to be this. We cannot deny the truth of a proposition while we assert it, but we may admit that it may well be false. We do not say it is made true for us by our asserting it; we say we believe it to be true. Similarly a theist cannot deny God's existence while he is prepared to worship, but he may admit that he could be mistaken. He does not say that God does exist for him, because he believes it; he says simply he believes that God exists.

A final point which emerges from the argument seems to be a hitherto unnoticed one about the logic of approval words. They all, of course, require an object. But some (the great majority, I think), can apply to objects whether or not they are conceived to exist. I may approve of, desire, long for, a Morris Minor or the classless society. Some, however, presuppose the object's existence. I may covet a British knighthood but not an American one (though I may wish that there were American knighthoods to covet). "Worship" as normally used, belongs to the smaller second group.

Of the second group, however, it is necessarily true that if I am brought to agree that the object does not exist, I can no longer approve of it in this way. This sort of approval (e.g. coveting) does not bring the object into existence, or make it exist "for me", but is merely logically inappropriate if it does not exist. This, I think, is what Coval has failed to appreciate about worship.

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PRIVATE LANGUAGE: THE LOGIC OF WITTGENSTEIN'S ARGUMENT

In a recent article in this *Journal*, April, 1959, Carl Wellman explains and criticizes the considerations which led Wittgenstein to reject a certain "picture of human knowledge". In this picture, as Wellman describes it, all words "derive their meaning from private experience" (p. 223).¹ My purpose is, first of all, to state as clearly as possible some of the reasons why Wittgenstein rejected this "picture of language" and, secondly, to answer some of Wellman's criticisms.

I

In 258 Wittgenstein imagines that he wants to keep a diary in which he will record the recurrence of a certain sensation. To do this he associates the sign "E" with the sensation. "E" is to acquire meaning by his concentrating on the sensation—a "kind of inner ostensive definition".

What is the relevance of what this diary keeper does to the picture of language Wellman describes? In this picture all words ultimately acquire meaning in the way in which "E" supposedly does. Thus this picture is a possible account of our language only if "E" does acquire meaning. If "E" does not acquire meaning, then this picture of language is only a picture.

Now Wittgenstein argues that whatever else may be said of the imagined situation, it cannot be said that "E" acquires a meaning. How does he show this? By reminding us of what is involved in a sign's having meaning and showing that this is absent in the case of "E". Wittgenstein is not arguing that this picture of language is false, as if it might be true. He is not doing psychology; nor is he giving us new information. Rather, he maintains that in virtue of what we mean by "a sign's having meaning" the imagined situation is such as to exclude the possibility of "E" acquiring a meaning.

Reminders of what is involved in a sign's having meaning are scattered through the *Investigations*. A list might begin in this way: If a sign has meaning, then (1) you can teach someone the meaning, (2) there is a useful application for the sign, (3) there is a distinction between someone's understanding and thinking he understands, and (4) there is a correct and incorrect use. If any one of these criteria is absent, then a sign does not have a meaning. Wittgenstein argues that none of the criteria are satisfied by "E". The analogy of "E" with a sign which has meaning, thus, breaks

¹ The page numbers refer to Wellman's article. The other numbers refer to the numbered sections in Wittgenstein's *Philosophical Investigations*.

down completely. But I will consider only his reasons for saying that (3) and (4) are absent.

One who maintains that "E" has a meaning believes himself to see an analogy between what the diary keeper does and situations such as the following: A chemist, let us imagine, on mixing X with Y, obtains a particular colour and calls it "C". Now as the chemist and others will be said to use "C" correctly when it is applied to the same colour, so "E" will be said to be used correctly when it is applied to the same sensation. Furthermore, as someone will have learned the meaning of "C" if he can pick out C from other colours, so the diary keeper knows the meaning of "E" if he can pick out E from other sensations. Finally, as pointing to C will enable someone to learn the meaning of "C", so the diary keeper's concentration upon the particular sensation is a kind of ostensive definition. Now I believe that Wittgenstein's intention in 258, and elsewhere, is to make us see that there is no such analogy.

Wittgenstein argues that "E" does not have a meaning because there is, as he says, "no criterion of correctness". Or "E" differs from "C" because in using "C" there is a criterion of correctness. What is the criterion for "C"? When we speak of "correctness" in using "C", we mean using "C" to refer to C and not another colour. The criterion is what would determine whether "C" was or was not being used correctly. If one were uncertain whether a certain colour is C, was not sure whether he used "C" correctly, or wanted to determine whether he remembered C, he could ask someone, look on a colour chart, mix X with Y, etc.

Why need there be a way of determining whether "C" is used correctly? Imagine that the paint chemist after mixing X with Y, accidentally destroys the mixture, without having recorded ingredients, proportions, etc. Then a week later he identifies a mixture as being coloured C. Can we ask whether he has correctly identified the colour? Now if Wittgenstein had assumed a version of the verification criterion of meaning, as Wellman maintains (p. 229 and p. 230), the answer would be "no". Since in this context there is no way to verify whether he has identified C correctly, it follows that it makes no sense to ask whether he did. But Wittgenstein would not say this. (Note the Lytton Strachey case which Geach mentions in *Mental Acts*, p. 3.) Even though we cannot find out in this case whether the paint chemist identified the colour correctly, we can still speak here of correct or incorrect identification. For we know what it is like in other circumstances to determine whether a colour has been correctly identified, and we know how one could have determined whether the chemist was right if the mixture had not been destroyed. However, it is because we can in other circumstances determine whether a colour word is used correctly, and because we can describe how we could have determined whether C was correctly identified, that it makes sense to speak of the paint chemist correctly or incorrectly identifying the colour.

If we could not make this distinction, then "C" would be without meaning.

If the paint chemist generally has a good memory for colours, there will be no doubt about his correctly identifying C a week later. However, we could imagine how doubt might arise. For example, if the paint chemist is known generally to have a poor memory for colours, or if he is hesitant and changes his mind several times when confronted with mixtures, we might begin to doubt.

To see why Wittgenstein says there is no criterion of correctness in the diary keeper's case, let us consider three possible suggestions.

(1) What the diary keeper recognizes as E is E. The criterion for the correct use of "E" is what he says. But this will not do, for if whatever he says is E is E, then it makes no sense to suppose that he correctly or incorrectly identified E. If a necessary condition for "E" to have a meaning is that the diary keeper can correctly identify (in contrast with incorrectly identify) a sensation as E, then "E" has no meaning.

(2) The diary keeper can use his memory to determine whether he is using "E" correctly. But he would have to have a *correct* memory (265 and 56). And in this context what sense can be made of the question: "Is his memory correct or not?" If one says that whatever I remember *is* the correct memory, how does this differ from (1)? Wellman thinks that Wittgenstein rejects the credibility of memory (p. 225). But Wittgenstein is not suggesting that we should doubt our memory. He is reminding us that to appeal to memory involves the distinction between a correct and an incorrect memory, and that in this context we have no criterion for this distinction. Perhaps the one who appeals to memory thinks of "E" as analogous to "C" when the paint chemist accidentally destroys the mixture. If one can rely on the memory of the paint chemist, why cannot the diary keeper rely on his memory? But the cases are not analogous. For in the former case it makes sense to ask such questions as, "Has he a trustworthy memory for colour shades?" or "Are you sure all the mixture is destroyed?" Whereas, what would it mean to ask if an E has been preserved or to ask if the diary keeper has a trustworthy memory for E's (or other *private* entities)?

(3) The diary keeper can determine whether he is using "E" correctly because he can "arrange to have similar and contrasting experiences . . ." (p. 225). As someone can recognize a particular shade of colour by seeing it next to similar and contrasting colours, so the diary keeper can recognize E by having other sensations. But here again the cases are not analogous, for the recognition of the colour must be a correct recognition. And seeing the colour next to others is not the highest court of appeal.

If there is no criterion of correctness for "E" what follows? "E" has no meaning. Consequently, the diary keeper's concentration on his sensation should not be looked upon as a "kind of

ostensive definition". The future use of "E", whatever it might be, should not be looked upon as like the use of "C", etc.

These, I believe, are the considerations which led Wittgenstein to reject the "language" he imagines in 258. If one wishes to take issue with them, then it seems that there are two alternatives: (1) Find a criterion of correctness in the diary keeper's case. This means: identify that which makes it possible for the diary keeper to distinguish between his thinking he is using "E" correctly and using "E" correctly, correct memory of E and incorrect memory of E, etc. Or (2) show that a sign can have meaning without a criterion of correctness. This means: show that a sign can have a correct and incorrect use without there being any way of determining whether or not it is used correctly.

Wellman not only argues that memory and comparison with other sensations are criteria of correctness for "E", but that no sign can have only "external criteria" (p. 225). I take it that Wellman is arguing that all signs must at some point have an *internal* criterion, e.g. memory or comparison with other sensations. For he argues that external criteria lead to an "infinite regress". We have just seen why Wittgenstein rejects memory and sensations as criteria. How might he have answered Wellman's charge of "infinite regress"? Wellman's regress, I believe, is not that if someone looks at a colour chart to determine whether the colour of a shirt is C, it is possible the chart may have faded, and if he mixes X with Y to determine whether the chart has faded, the chemicals may be old, etc., etc. Rather he writes: "Suppose there were some external standard to which everyone could appeal. How would anyone know that he had checked his use of the word against the standard correctly?" (p. 225). For example, if someone identifies the colour of a shirt as C and then for some reason looks at a colour chart to determine whether he is correct, Wellman would ask: "How can he know that he has checked it correctly?" I am not at all sure how to understand this question. Wellman says that "checking one's use against an external standard takes time, and therefore, requires the use of memory" (p. 225). So the regress, apparently, would be: standard involves memory, correct memory involves a standard, and so on. But does checking the colour of a shirt with a chart require the use of memory? What could it mean to say that it does? That checking is a learned procedure and is not like a reflex action? But what would this have to do with knowing that the shirt and the chart have been correctly compared?

II

In the "picture of language" which Wellman describes, words acquire meaning in the manner in which "E" supposedly does. The meanings of words are ultimately "derived from" sensations. From this picture it follows that if someone is to know what another means

by a word, he must have the other's sensation. In addition, to mean the same thing by a word as another person one must have "qualitatively similar" sensations (p. 226).

In 272 Wittgenstein remarks that from this picture of language the assumption would be possible that we mean something different by the word "red", since each of us might have different sensations. Now it is misleading to say, as Wellman does (p. 226), that Wittgenstein thinks it possible that people have different or "qualitatively similar" sensations when they report seeing red. As if he thinks it possible that people mean something different when they give their reports. Wittgenstein holds that *in terms of this picture of language* this would be possible. But this is not a picture of how words do or might acquire meaning, for, as we have seen, the function of 258 is to show that the signs would be without meaning.

The picture of language, as we have seen, makes it necessary to assume that people have "qualitatively similar" sensations, in order to explain how communication is possible. Wellman writes that this assumption is a "factual assertion" but that it is not "easy to see how it can be empirically established". However, he argues that since this assumption functions to "make experience intelligible" this "constitutes evidence to support" it (p. 227). Now if Wittgenstein is correct, this assumption, which has the physiognomy of a factual assertion, is neither true nor false. In order for it to be true or false, it must be possible for there to be sensations from which words derive their meanings. But there cannot be such sensations, because words cannot derive their meanings from sensations. The assumption does function to make experience intelligible, but experience, we might say, needs to be made intelligible only because the picture of language makes it appear unintelligible.

III

In the picture of our language we have been considering, the meanings of ostensibly definable words can be known only to the person using them, for they refer to his "private sensations". In 246-251 Wittgenstein considers in what sense sensations are private. There he does not "repudiate" or "refute" (p. 232) the view that sensations are private. Rather he tries to show what "sensations are private" means if the phrase is at all intelligible.

We can distinguish three general ways in which the solipsist's statement, "only I can know I am in pain" (to use Wittgenstein's example), might be understood: (1) As "know" is normally used, other people very often know that others are in pain. In this sense of "know", the statement would be false. We can easily imagine other related uses of "know". For example, a doctor might say of his patient, "he knows he is in pain", and by this mean that he is suffering greatly. A wife might say to her husband, in certain circumstances, "I know that I am in pain", and this would be under-

stood as a way to emphasize that she is not lying. But when the solipsist says that only he can know that he is in pain, he is not using "know" in any such way. (2) There is the use of "know" which involves "finding out", "establishing", "making sure", "verifying", etc. If "know" is understood in this way, then Wittgenstein would say that the solipsist's statement is "nonsense" (246). (3) How, then, is the solipsist's statement to be understood? Wellman suggests it should be understood in the "restricted use of the word 'know'" (p. 232). In this restricted sense, in order for anyone else to *know* that I am in pain, he must feel my pain. How is this to be understood? If the world were different or physiologists developed some instrument, could we feel the pains of others? What prevents others from feeling my pain? In this restricted sense of "know" what "prevents" others from knowing that I am in pain is, according to Wittgenstein, what "prevents" others from playing patience with you (248). That is, neither "feel my pain" nor "come and play patience with me" makes sense. Thus in the restricted sense of "know" the solipsist's statement, if it is at all intelligible, is what Wittgenstein sometimes calls a "grammatical" statement—in this case: "It makes sense to say 'I feel the pain' but not 'he feels my pain'."

Wellman writes that this explanation of the restricted sense of "know" reduces the solipsist's statement to an "empty tautology". He goes on to say: "I must admit that I have never been quite sure of the point of this reply; it is a curious argument which would refute scepticism [solipsism] by showing that it is necessarily true" (p. 232). If we can make a distinction between what a statement means, if it is at all intelligible, and how the one making it understands it, then we can see the point of Wittgenstein's reply. The solipsist does not intend to be making the above grammatical statement. If he could be persuaded that he is uttering a grammatical statement or "empty tautology", as Wellman puts it, would he continue to make his claim? But if this is not how the solipsist wishes to be understood, then what is the restricted sense of "know"? It would appear that the point is that solipsism as the solipsist understands it (and how else should it be understood?) is a picture which cannot be made intelligible.

I have considered only a few of the questions and criticisms which Wellman raises and which should be answered. I have greatly simplified Wittgenstein's thoughts. I hope I will be forgiven if I have misunderstood Mr. Wellman.

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A NOTE ON DEONTIC LOGIC

A REDUCTION of normative concepts to logical modalities by means of constants has been carried out recently by Alan Ross Anderson.¹ Suppose we have an expression of the modality of necessity N_* and of logical necessity N_0 in a non-extensional language L_* . By " N_* " is meant in general necessities other than N_0 , including, for example, obligatoriness in Anderson's case. On a try at reducing N_* to N_0 along the lines designed by Anderson, we obtain the following scheme of definition in L_* :

$$N_*A \equiv N_0(\sim A \supset C_*), \quad (D)$$

where C_* is a constant not involving N_* and describing the impossible state relative to N_* . In addition, the axioms of L_* characterizing the logical constant N_0 have to be supplemented with some postulate concerning C_* to the effect that

$$\sim N_0C_* \ \& \ \sim N_0 \sim C_*.$$

(D) is a generalization of a common ingredient in logics of propositions and classes. The first appearance of this kind of logical law is, to my knowledge, in a calculus (K) developed by Leibniz about 1686.² One of the interpretations of K provided by Leibniz turns K into a modal logic, the range of values of the variables then consisting of propositions. In this interpretation, the theorem of K in question can be rendered: ...

$$N_0(A \supset B) \equiv N_0((A \ \& \ \sim B) \supset \text{non-Ens}).$$

As appears from Leibniz's way of using the constant "Ens" in certain definitions and theorems, "non-Ens" may be defined in this connection as the conjunction of an arbitrary constant designation of a proposition and its negation. Further, presupposing $(A \supset B) \equiv \sim (A \ \& \ \sim B)$, we get:

$$N_0(A \supset B) \equiv N_0(\sim (A \supset B) \supset (a \ \& \ \sim a)),$$

where " $a \ \& \ \sim a$ " is a constant, representing the logically impossible.

Returning to (D), we realize that the definiens shall have the same meaning as the definiendum. Otherwise the two expressions will not be interchangeable within contexts of L_* quantified by N_0 . Hence:

$$\begin{aligned} N_0(N_0(\sim A \supset C_*) \supset N_*A), \\ N_0(N_0(C_* \supset C_*) \supset N_* \sim C_*), \\ N_0N_* \sim C_*.^3 \end{aligned}$$

¹ See A. R. Anderson, *The Formal Analysis of Normative Systems* (New Haven, 1956). A concise account is found in Anderson, "A Reduction of Deontic Logic to Alethic Modal Logic", *MIND*, lxxvii (1958), 100-103. Some variant systems based on Anderson's approach are discussed in A. N. Prior, *Time and Modality* (Oxford, 1956), Appendix D.

² Cf. N. Rescher, "Leibniz's Interpretation of his Logical Calculi", *Journal of Symbolic Logic*, xix (1954), 1-13.

³ Cf. Anderson, *The Formal Analysis of Normative Systems*, theorem OM 48, p. 62, and rule P 4, p. 48.

But this is counterintuitive, since $C_* = \Sigma A$, for all A such that $N_* \sim A$.

Lest everything be necessary in the sense of N_* , we deny the logical necessity of C_* . And if we consider, in an intuitively natural way, the constant C_* as the finite logical sum of all statements which are impossible relative to N_* (N_* -impossible), we should not enunciate the logical necessity of the statement that C_* is N_* -impossible. The fact that C_* is N_* -impossible might conceivably be synthetic. For instance, the fact that everything which is forbidden in a society happens to be forbidden might be an extra-logical truth. Then we should not maintain in general that the impossibility of the impossible be logically necessary.

In his refutation of the claim that deontic propositions cannot be true or false, Stig Kanger¹ incidentally turns against this peculiarity of Anderson's approach, admitting his own propensity to assume the existence of certain synthetic moral statements.

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¹ S. Kanger, *New Foundations for Ethical Theory* (mimeographed), (Stockholm, 1957), p. 35.

VERIFICATION AND THE PERFORMATORY THEORY OF TRUTH

MR. J. KINCADE describes¹ a use of the words "is true" and says of it and similar cases that (A) it was "with these cases that the orthodox theories of truth were wholly concerned" and (B) that Strawson's analysis² of the uses of "true" does not deal with these cases. I want to show that Strawson's analysis does indeed apply to these cases and that they introduce nothing essentially different from what Strawson spoke of in the Aristotelian Society paper.

The cases in question are like the following:

... Here there is a politician who has an axe to grind, and who says,

A. "The country is better off under a Conservative Government."

A casual companion, the mythical average man, says:

B. "That's true."

In this case the Strawsonian analysis works perfectly. But if in addition there is present a statistician who has been working on the economic index, and he also says,

C. "That's true",

there is a difference between his statement and that of B. The difference lies in the grounds B and C have for their remarks. B says what he does say because, it may be granted, he is endorsing or agreeing with what A said; but C says "That's true", not simply as an endorsement but because he has verified the statement. He is not so much nodding as indicating that he has found the facts to be as A stated.

We note that C is certainly in a position to use "That's true"; that is, C is in a position to *confirm* A whereas B, not having verified A's statement, cannot confirm it, but does agree with A. But what is C doing other than confirming A? Certainly C is not merely nodding or agreeing, but Kincaide is wrong in supposing C is doing something more than confirming A. C's verification of A's statement *enables* C to confirm it—to say of it that it is true. Strawson pointed out that one use of "is true" is confirmation.

It is clear that if A knows C has studied data relevant to the truth of his statement and consequently hears C say of his statement that it is true, then A knows C is confirming his statement, and not merely agreeing because he is inclined to agree. It is only in this way that C's utterance imparts information. All this goes with saying "C confirms A's statement".

Thus "the distinction between saying 'p is true' in the confirmatory sense, and saying 'p is true' because I have verified it", is *not* "lost in the performatory analysis". These are not two distinct cases. One is able to say "p is true", confirming someone's statement, because he has verified it, or because he knows it has been verified. There does not, then, seem to be anything in these cases not subject to Strawson's analysis; nothing, that is, with which the orthodox theories were concerned, that did not concern Strawson.

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¹ "On the Performatory Theory of Truth", *MIND* (July, 1958).

² "Truth", *Proceedings of the Aristotelian Society*, suppl. vol. xxiv, 1950.

VII.—NEW BOOKS

The Problems of Perception. By R. J. HIRST. Allen & Unwin, 1959.
Pp. 330. 30s.

HIRST is dissatisfied with the current philosophical practice of ignoring the causal aspect of perception. He is dissatisfied with the scrutiny of what we usually say because we say it in ignorance of that aspect. His problem is how to include it, and his solution is to include it by definition. Representative theorists erroneously suppose that what we perceive is the content of our visual experience and not an external object. According to Hirst, all that we have to do to avoid this error is to define 'perception' as the whole causal process up to and including the visual experience. He is merely proposing a new use for 'perception' while retaining the distinction between the visual experience and the preceding causal chain. He is back where he started. Not all of Hirst's moves are as transparently verbal as this one. They are wrapped up in terminology.

He starts from the distinction between inner and outer aspects. A person's outer aspect is what other people can observe of him and his activities. The inner aspect consists of his private experiences. Next, these inner and outer aspects are identified. They are one as the morning star and the evening star are one. They are two different modes of access to one and the same thing. This account of the relation between mind and body is then applied to perception. Here the inner aspect is the content of perceptual consciousness, while the outer aspect includes both the brain processes identified with the inner aspect and the preceding causal chain of physiological events. From the inner point of view of the person who has it, perceptual consciousness is an 'external object' of which he is aware. To him, it is always awareness of an 'external object'. The inverted commas are Hirst's own and one cannot help wondering what they indicate. Surely if he wishes to maintain against representative theorists that we perceive external objects, it is open to him to do so without inverted commas. From the outer point of view of someone who is correlating the inner and outer aspects, there is no such 'object' but only an adverbial experience of the external object. Now it follows from this that the external object is distinct from the 'external object'; that the 'external object' represents the external object (p. 289). So it must be a representative theory.

Hirst denies that he is committed to a representative theory by denying that he is committed to private objects. From the correlator's point of view there are no such objects, there are only adverbial experiences of the person concerned. The inner aspect is explained away as 'what the adverbial experience is like to the experiencer' (p. 295). So while I may say that there is a shooting pain in my right leg, a correlator is only allowed to say that I am experiencing algically, shootingly and in a right-leggish manner. From my point of view, the pain is a private 'object', from his there is only my algic mode of experience. It is clear that we can always perform these grammatical feats, but it is equally clear that nothing is gained by so doing. If I really have a point of view complete with private 'objects', these will not cease to exist simply because someone takes up another point of view, or starts to talk about them in a new way. It is upon this purely verbal move that Hirst bases his claim that his view is not a representative theory.

The way in which he uses this terminology makes his view unintelligible. 'Inner aspect', for example, is used as the equivalent of 'what it is like to perceive an object'. We know what it is like to see an apple. So *that* is the inner aspect of an apple. Clearly, this method of introducing 'inner aspect' leaves no room for the 'outer aspect'. If what I see of an apple is an inner aspect, then someone watching me watch the apple is having his inner aspect. What then is meant by an 'outer aspect'? Hirst claims that perception reveals the object as it is, where 'the object as it is' is equivalent to 'what it is like to perceive the inner aspect of the object'. Now this is not really a claim at all. If I need to be assured that I see an object as it is, I can hardly be satisfied by being told that I see it as I see it.

The sense of 'identification' in which the inner and outer aspects are said to be identified is equally uninformative. This identification of, say, my pain with a process in my brain is alleged to be an empirical hypothesis comparable with the identification of the morning star with the evening star. But if the pain is down my leg and the brain process is up in my head, what can be meant by saying that two different sorts of thing in two different places at the same time are to be identified? We have criteria for deciding that two sets of observations are observations of the same physical objects, prominent among them that of locatability in the same place at the same time. We have no such criteria for the identification of the pain and the brain process, nor does Hirst supply any. For to say that the pain and the brain process are identical is only a way of reiterating that their times of occurrence, waxing and waning have been found to be closely correlated. This is the only available criterion and this is the only content of Hirst's use of 'identify'. It carries the sound but not the content of the common use from which it is derived. It says no more than 'is temporally correlated' while seeming to say more. It is open to Hirst to reply that the pain is distinct from the brain only from the sufferer's inner point of view; that from the correlator's point of view my pain is not a private object in my leg, but is adverbial to me the suffering person; that from this point of view I am experiencing algically what a physiologist might experience visually. But this reply will not remove the difficulty, in part because of the objection already raised to the 'adverbial', mainly because it leaves the meaning of 'identify' what it was. It still means no more than temporal correlation: it is still uninformative. It is better, according to Hirst, to say that the pain and the brain process are identical, than to say that they are causally related. His reason for this is that it enables him to account for the privileged access of introspection without lapsing into dualism, and that this in its turn is a good thing because it retains the unity of the person. In this way, the emptiness of 'identification' spreads throughout his system. The 'unity of the person' has no more content than the sense of 'identify' in terms of which it is defined. The vacuity is transmitted to other terms such as 'mode of access'. For the two modes of access are modes of access to one and the same thing, and the meaning of 'one and the same thing' depends on the meaning of 'identify'. If I am told that I can gain access to that room through that door, I have been given some information. But if I am told that I can gain access to my brain by having toothache, it is far from clear what I have been told, what the new piece of information is. Hirst's proposal to call my pain a way of gaining access to my brain means that my pain can be correlated with something in my brain. It says no more

than this. The mere use of the phrase 'mode of access' does nothing to diminish the differences between my brain and my toothache.

There is a surprise ending. It is revealed that external objects are unobservables which possess only primary qualities and that they produce secondary qualities in us on the inner aspect (pp. 298 ff.). This contrasts strangely with his previous statement that perception reveals the object as it is. It is explained (p. 316) that although in perception we have a mode of access to the public world, this does not of itself give us knowledge of the real properties of physical objects. All that we have in perception is the content of an adverbial experience. By measurement, calculation and experiment we can 'get beyond' the adverbial experience to those real properties. At this stage Hirst does not even claim that we can have access to the real properties of external objects. His claim is no more than an appeal to the coherence and fruitfulness of the *hypothesis* that what are measured are the properties of external objects. It is not easy to understand how, if we see the inner aspects of physical objects as they are, the existence of those objects can be merely hypothetical. What is astonishing about this is that it occurs as part of a view which is alleged not to be a representative theory. We have here all the familiar features of such a theory. For the difference between a representative theory and Hirst's view depends on a play on words. Instead of two things, sense datum and physical object, we have two aspects of one thing. Instead of a sense datum representing a physical object we have the content of perceptual consciousness corresponding to the external object. The status of the external world remains unchanged. It is just the most plausible explanation of our sensory sequences. Yet these sensory sequences give an inner access to external objects. Hirst wants it both ways.

JOHN TUCKER

Reasons and Faiths. By NINIAN SMART. London: Routledge & Kegan Paul, 1958. Pp. 211. 25s.

THE first thing to be realised about religious discourse, according to Mr. Smart, is that its logic is variegated. He thinks that three strands in particular can be discerned in it and that divergences between faiths can be traced to differences in the relative weightings of these strands or in the ways they are interwoven. The three strands are: the numinous, the mystical, and the incarnation strand. The numinous has to do with the object of worship and is given priority on the ground that its dominant concept—that of *the holy*—serves "to cordon off in a rough and general manner the spiritual domain from others" (p. 22).

Mr. Smart's account of the numinous takes the form of a discussion of the logic of assertions to the effect that something is holy. These are classified as "exclamatory propositions" and the main contentions about them seem to be as follows: (1) Assertions that something is holy are very like exclamations of wonder, though there are certain qualifications, e.g. 'holy' carries an overtone of dread; "the divine is considered to be intrinsically far more impressive than the beautiful or marvellous"; also the divine is addressed as audience of the wonderment (pp. 29 and 30). (2) Ascriptions of holiness have their basic use in connection with "experiences" or "intimations" of holiness. "Perhaps we should say that

the spontaneous ascription of holiness is the fount from which all the more formal behaviour flows" (p. 31). (3) That divinities should be deemed to be not in the world but *afar* is a formal requirement connected with the tendency of holy objects to be "screened" and reflecting the humility of the sacrificer. In sum: "propositions about the divine express a humble reaction to the glories and mysteries in the world, which is directed to a divine target said to lie beyond the world, for thereby its dread mysteriousness is well delineated" (p. 53). I shall not try to summarize the author's accounts of the other two strands or his subsequent discussions of epistemological and moral concepts in their relation to religion, although these contain many features of interest.

Throughout, the doctrinal illustrations are taken almost entirely from Hinduist and Buddhist sources. Mr. Smart hints that the philosophy of religion has done itself harm by concentrating upon a single model—that of Christianity. This may be so and I have nothing but praise for his enterprise in principle. All the same, if one wants to understand the nature of worship, there is good reason not to consider it primarily, as Mr. Smart does, in a Brahmanist context. For in Brahmanism the deity or object of worship, Brahman, is identical with the Self (p. 21) and in such a case, even though 'the Self' may not be the same thing necessarily as 'myself', a difficulty is created for worship. Worshipping a deity (pleonastic expression) goes naturally with self-abasement and a conception of the lowliness of humanity generally. The antithesis of this would be produced simply by having no worship at all—which I take it is Humanism. Hence Self-worship looks like a confusion of thought: Humanism in a pseudo-religious posture. Mr. Smart would like to explain this difficulty as a conflict between the numinous and mystical strands within religious discourse (the mystical strand contains the idea of union with God, i.e. participation in the divine nature, i.e. identity with the object of worship (pp. 131-132)). However, this means that Brahmanism cannot have been from the start a reliable guide to all that is characteristic of the numinous or worshipping strand considered by itself, and it was bad tactics for Mr. Smart to put it forward as if it were. Furthermore, the suggestion that 'the Self as an object of worship' is at home in Christianity also seems to me entirely dubious. The German mystical sources cited do not establish this and in any case I should say of them, or of this aspect of them, what I would say of Brahmanism—that if you want to understand what worship is, this is not the best place to go.

However, apart from the question of the best place to go, there is the question of the right way to set about understanding what you find when you get there. Mr. Smart, in his introductory chapter, promises to be guided by, among other things, the following motto: "the doctrines find their life in the activities surrounding them" (p. 18). To take this motto seriously would be to enquire what difference Brahmanist doctrines make, or is supposed to make, to the life of the believer. One would have to consider, and try to offer some account of, the kind of culture and society to which Brahmanism belongs. One would try to discover what ideas concerning the world and human existence provide soil for the Brahman-Atman (God-Self) doctrine to grow on. For instance, would ideas about the contingency of things, about a man's destiny not being under his control or about his proneness to evil in so far as it is under his control—would such ideas be found relevant to Brahmanism in the way they are relevant to Christianity? Instead of anything like this, Mr. Smart offers in con-

nection with Brahmanism a generalized account of the numinous which boils down to the contention that the foundation of worship, i.e. what gives sense to worship and hence to religion, is a special 'experience' or 'reaction'. This is an application of the doctrine of meaning and intelligibility which was put into circulation in British philosophy by Locke and Hume: ideas arise by automatic transformation out of impressions. It is an obstacle to enquiry and it was exploded in all its forms by the publication in 1953 of the *Investigations* of the man who (surely) inspired Mr. Smart's motto. Mr. Smart has two pages (25 and 26—"Exclamatory propositions are not just segments of reactions") which suggest that his adherence to the Empiricist doctrine may be less than wholehearted; but considered alongside the rest they do not suggest that he repudiates it.

R. F. HOLLAND

La méthode ontologique de Platon. By MAURICE VANHOUTTE. Bibliothèque Philosophique de Louvain, 18. Publications Universitaires de Louvain and Éditions Beatrice Nauwelaerts, Paris, 1956. Pp. 193. 160 fr.

THIS study of Plato's theory of knowledge and being is by no means easy reading, being very closely argued and depending on the texts step by step. Like many of the more recent writers on Plato, Vanhoutte traces great changes of thought after the period of the *Republic*, which still stands in some non-professional minds for the outline of a system not fundamentally altered later by its author.

For Vanhoutte the most important distinction lies between *νόησις* as intuition or direct awareness of the Forms and *διάνοια* as discursive reasoning, provisional and abstract use of hypotheses. This is already familiar from the *Republic*, but in later dialogues, from the *Parmenides* onward, discursive or abstract reasoning becomes steadily more important than visionary intuition of Forms. In particular the notion of a hierarchy of Forms, so prominent in the *Republic*, though not always present or always prominent in other dialogues of the middle period, disappears entirely. It gives place to a scheme of fundamental categories running through the worlds of Forms and of particulars alike: One and Many, Being and Non-being, Rest and Movement, Sameness and Difference, Limit and Unlimited. The discovery of these categories, which apply to one another positively or negatively, as well as to lower Forms and to particulars, is held to be the achievement of the Major Dialectic where this appears in the *Parmenides*, *Sophist*, *Politicus*, and *Philebus*. The Minor Dialectic is something identified by Vanhoutte himself as a propaedeutic for the other, and illustrated particularly by the method of Division in the *Sophist*, an experiment on comparatively humble subject matter.

There are various points of obscurity in the exposition. It is hard to see how the Greatest Kinds or most general categories, which are already interlaced at the most general level, can also by some other mode of contact be said to constitute lower Forms in any way beyond being a general frame to which they are attached.

A point of great interest is the claim that Recollection fades away in the later dialogues, to be replaced as a means of knowledge by the logical intercommunion of kinds.

The Greatest Kinds, like the Forms, are known by the intellect alone. Though these categories of Plato foreshadow those of Aristotle and not those of Kant, the exposition in this book shows how much of interest might arise from an investigation of ancient notions which cover the same ground as theories of the *a priori* in modern philosophy.

E. D. PHILLIPS

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- St. John's University Studies*, Philosophical Series I, No. 4, St. John's University Press, 1960, pp. 164.
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- The Sacred Writings of the Sikhs*, translated by Trilochan Singh, etc., London, George Allen & Unwin Ltd., 1960, pp. 288, £1 2s.
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- Archiv für Geschichte der Philosophie Begründet von Ludwig Stein*, ed. P. Wilpert, Band 42/Heft 1, Berlin, Walter de Gruyter & Co., 1960, pp. 116.

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